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ABSTRACT

Two sets of low-cost instructional simulation materials for use in teacher education programs were developed, one dealing with problems of classroom management and one dealing with discovery teaching. An effort was made to expose students to certain principles of classroom management or discovery teaching before they used the simulation materials. Data obtained from the evaluation revealed that the Classroom Management Series left little to be desired in timeliness and credibility. Design-wise, improvements were indicated that would be expected to have a significant positive effect on strength, robustness, reliability, and affect created by the system. Changes made during the course of the project did not permit field testing of the Discovery Teaching Series. (An appendix, which constitutes about three fourths of the report, contains the student and instructor manuals for the two series, a field trial evaluation guide, comments on the Classroom Management Series from subject matter experts, media specialists, and students, and the implementation analyses made by three schools of education involved in testing materials.) (Author/RT)

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Final Report

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Development of Low Cost Instructional Simulation Materials for Teacher Education

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Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon

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Foreword

This document reports a project initiated by Dr. Bert Y. Kersh concerning the development of low-cost instructional simulation materials. Many individuals contributed to the project. Dr. Carl Wallen was the one most responsible for the development of the Classroom Management Series. Helping him were Mr. Peter Smith, Mr. James Buck, and Mr. Sidney Micek. Working on the Discovery Teaching Series were: Dr. Jack Crawford, Mr. John Bond, Mr. Sidney Micek, Mr. James Buck, and Mr. Donald Kohl.

During the course of the project, the staff was forced to deviate from the proposal and forego the completion of the Discovery Teaching Series. The reader will note that although substantial portions of the manuals were completed, films to accompany the manuals are lacking. Thus, a field trial of the series was impossible.

Half-way through the project, the project initiator and principle investigator left Teaching Research. It is probably safe to say that the project staff sorely missed the guiding hand of Dr. Kersh.

Summary

The original "classroom simulation" materials developed by Kersh (1963) provided students with an opportunity to react in a life-like manner to film sequences, and to experience probable pupil consequences. Although quite effective, these pioneering efforts were limited, in terms of the expense of materials and equipment, and the time required to train even small numbers of students. These limitations led to the development of "low-cost" instructional simulation materials for use in teacher education programs. Two sets of instructional materials were developed in the present effort: 1) one dealing with problems of classroom management, and 2) one dealing with discovery teaching.

The new materials that were developed deviated somewhat from the original films. An effort was made to expose students to certain principles of classroom management or certain gross features of discovery teaching before they were "exercised" in the application of this information using simulation techniques. With the previous materials, principles were drawn from the simulation experience itself, and no formal introduction of principles was made.

The evaluation plan included both formative and summative aspects. From data that was obtained from the summative evaluation, it was possible to draw conclusions about: 1) design; 2) credibility; 3) timeliness; 4) affectivity; 5) strength; 6) reliability; 7) robustness; and 8) manageability.

Results revealed that the Classroom Management Series left little to be desired in way of timeliness and credibility. Design-wise, improvements were indicated that would be expected to have a significant, positive effect on strength, robustness, reliability and affect created by the system. Data revealed that the materials did not cause all students to reach expected proficiency, and affect was borderline in some cases. The system was found to be manageable. Changes made during the course of the project did not permit the field testing of the Discovery Teaching Series.

I. Introduction

Simulation...A More Powerful Tool

One can make the case for the conventional being the norm in education. Arguments for the conventional (e.g., a teacher equipped with a chalk board and perhaps an overhead projector, lecturing 30 or more students) might include its adaptability ("Instruction can proceed anywhere, anytime"), its low cost ("School district budgets in danger of defeat can't buy expensive hardware or instructional materials"), its known history of use, ("Why, if it's good enough for my generation, it's good enough for the present..."), its apparent degree of success ("Who is failing school in our community?"). Perhaps these arguments hold for some students in some places. But our position is quite the opposite. If one permits the assumption that instruction is only as effective as the methods and technology used to instruct, and that the technology of education has now progressed to the point that it is useful for the solution of problems that cannot be solved through the application of the conventional, then we should look at the unconventional. Better solutions to problems mark man's progress in coping with these problems.

In the instructional area, it behooves the educator to move away from the "hand tools" of education - the chalk board, the lecture, paper and pencil - to more powerful tools. In the military, this movement away from the hand tools had led directly to the extensive development and use of simulation, a more powerful tool. In fact, the Arthur D. Little Report (1968) p. 13 states that:

"The growing emphasis on cost-effectiveness in military training programs will result in a much greater use of simulation training. NTDC personnel suggest that the use of simulation is in its infancy and that there may be almost total dependency on simulation in several training areas in the not-too-distant future."

Richard Braby of the Naval Training Device Center in Orlando, Florida makes a telling case for using these more "powerful" instructional tools in place of the conventional "hand tools" in the military.¹

"I don't think we could ever talk a pilot into having the behavior that he must perform in the aircraft. You could talk to him for 30 years and he would never be able to perform under the stress of actual flight. In other words, in the classroom you don't have the stimuli that will actually trigger the behavior...I think you have to experience it."

In the military, simulation has been used over a wide range of complexity - for the training of very simple tasks to the training of

1. Personal communication

extremely complex and ever-changing tasks. A representative of the simple end of the scale is the pocket blinker which simulates the operation of a ship's blinker light and enables trainees to practice Morse Code. At the other end of the spectrum are exceedingly complex weapons systems that require teams of operators and analogue or digital computers. Braby has listed some advantages of simulated systems over the use of the operational or real life system in training:

1. Cost of training
2. Student safety
3. Effectiveness of learning
4. Availability of rare events
5. Ease of experimenting with new procedures
6. Ease of management
7. Measurement of readiness
8. Availability of operational equipment
9. Damage to operational equipment

These and other advantages have been discussed elsewhere [c.f., Twelker, 1969 (b)].

The idea of a "Behavioral Link Trainer" has been translated into civilian education and specifically, teacher education. In 1961, Dr. Bert Y. Kersh, funded under NDEA Title VII, built a simulation facility and initiated a variety of simulated classroom situations. The situations were simulated through the medium of sound motion pictures and motion pictures, and were called "Mr. Land's Sixth Grade". Essentially, a trainee undergoing the simulation experience was presented with problematic situations filmed so that the class appeared to be reacting directly to the student teacher, who was viewing the sequences. Several alternative feedback sequences were available for each problem that showed the trainee how the children might react to his handling of the situation. A large rear projection screen permitted life-like images to be projected for the trainee who responded to the scenes by enacting what he would do. The trainee called the pupils on film by name, spoke to them as if he were actually in the classroom, and even indicated when he would "move in" to the projected situation by physically advancing toward the screen. After the projected stimulus situation-trainee response-projected feedback cycle was completed, the experimenter would discuss the experience with the trainee. If it was decided that another response might be more appropriate (i.e., result in a more favorable class reaction), the cycle was repeated another time, again culminating in a discussion or "debriefing".

The original Kersh materials were not primarily intended to be used for training purposes. They were designed for research purposes - to test the feasibility of using simulation techniques and to test the importance of fidelity in the simulation system. Although many requests were received monthly concerning their use in on-going training programs, the materials rarely were released unless it could be shown that their use could contribute to the body of knowledge concerning simulation. For the most part, this required a research effort on the part of the party seeking use of the classroom simulation materials.

For research, classroom simulation was satisfactory; for training it was limited. The reasons are obvious:

- a) The materials required an elaborate simulation facility equipped with three or four specially modified projectors, a large rear-projector screen, and an electronic control system;
- b) Only one student could be trained at a time;
- c) An experienced teacher was required to act as the tutor-instructor-therapist;
- d) The most students that could be handled in one laboratory was about 80 per term, assuming that two instructors were available morning, noon, and night;
- e) A technician generally was required to be on call at all times to fix the hardware when it broke down;
- f) The filmed materials were sequenced in such a way so as to make their use in extra-laboratory situations (e.g., the classroom) very difficult, if not impossible except for the most patient instructors.

The "Low-Cost" Project

These limitations led to the formulation of the project reported herein, whose primary objective was to develop an assortment of low-cost instructional simulation materials for use in teacher education programs. The simulation materials were to be modeled after the "classroom simulation" materials developed originally by Kersh (1963). A total of two sets of instructional materials were to be developed:

- a) one dealing with problems of classroom management, and
- b) one dealing with problems of teaching subject matter using the "discovery teaching technique".

Classrooms at levels ranging from Grade 4 through Grade 6 were to be simulated.

It was expected that through the use of the classroom simulation materials, students would be given an opportunity to develop responsiveness to cues and skill in applying general principles of instruction in the classroom. The materials to be developed were to be of such a nature as to permit their use in a variety of settings (e.g., individualized instruction, small group instruction, conventional instruction, and tutorial instruction (laboratory instruction similar to the prototype) in large as well as small teacher education institutions. Further, they were to be of a nature as to eliminate the need for expensive equipment and highly trained operators.

The project drew upon a number of valuable clues regarding further development of instructional simulation as a technique in teacher education from a series of prior projects (e.g., Kersh, 1963; 1965; Twelker, 1965; Twelker, Kersh and Pyper, 1968). Findings from these experiments generally indicate that for certain instructional purposes, realism, in the form of life-like projections and learner responses, are not necessary. In fact, one study showed that the smaller projections may

be even more effective than those which produce life-size images (Kersh, 1963). Similarly, findings revealed that still projections may be more conducive to quick learning than moving projections (Kersh, 1963).

Why Simulation in Teacher Education?

The main advantage of simulation materials is that they bridge the gap between textbook learning and the operational real-life situation. Usually, students are bombarded with principles, of classroom management for example, and yet given little opportunity to exercise or apply these principles in realistic circumstances. Under these conditions, students may be able to verbalize the principles and pass tests which ask for statements of the principles as taught. The problem is that students have not had sufficient opportunity to practice or exercise the application of the principles in a variety of situations. In other words, students are not able to transfer knowledge gained from the instructional situation to the real-life situation. Simulation, which has been defined as the "obtaining the essence of something, but without the reality" is a valuable technique for increasing the probability of this transfer occurring. In essence, then, the simulation technique is based on the old adage that "experience is the best teacher" and in our opinion, represents a powerful technique.

"Bench Marks" and Simulation Training. It is intended that the simulation materials provide the student and instructor with "benchmarks" for further discussion and professional growth. That is, various teaching strategies dealing with both classroom management and discovery teaching techniques are shown. These strategies serve as a foundation upon which students can develop and build their own individual teaching skills. It is helpful to think of these teacher strategies as "benchmarks" they serve as a standard for comparison. These "benchmarks" reflect current educational practices and thinking but do not necessarily provide the final word. The student will find the simulation experiences valuable if he can test the feasibility of the "benchmark" in terms of his own behavior and philosophy of instruction.

Systematic Practice and Simulation Training. By providing opportunities for systematic practice in a simulated classroom setting, it is intended that the student will practice the discrimination of cues which signal occasions for action, and the practice of instructional management strategies without fear of censure or embarrassment. Through systematic practice in a simulated classroom, a student learns how to fill the decision-making role of the teacher in the classroom by participating in a comparable role in a simulated situation. In brief, instructional simulation forces the student to focus on an instructional or management situation and devise different modes of responding. Simulation offers the student an opportunity:

- 1) to build and to practice his own strategies of searching for cues that signal a decision-making process on his part;
- 2) to test hypotheses he has about how to respond to these problems or occasions; and
- 3) to change his behavior in view of the feedback he receives.

"Concrete Referents" and Simulation Training. It is one thing to be told a method or principle but it is another thing to see that method or principle being practiced in an actual classroom setting. Throughout simulation training, concrete referents--actual classroom situations--are given to illustrate a concept or principle. Enough examples of classroom situations are shown so that the student can "tag" an abstract concept or principle to actual practice.

The Development of the Simulation Systems

At Teaching Research, a 13-step model is used in the design and development of an instructional simulation systems (see Figure 1). Step-by-step explanations are beyond the scope of this report. They are available elsewhere (Twelker, 1969 (a); Crawford and Twelker, 1969). However, the 13 steps will be summarized and an effort will be made in subsequent chapters to relate steps described here to the various developmental efforts.

System Analysis

Step 1. Define instructional problem. Before materials are developed, the designer must know what educational needs he is attacking. Needs may be thought of as gaps between what now exists and what is desired to exist. He also proposes some solutions to close these gaps.

Step 2. Describe the operational educational system. In addition to assessing needs, the designer must make a thorough analysis of the context in which the system is to operate. For example, he must define:

- a) target population
- b) manpower available for the project
- c) supporting equipment
- d) procedures and materials
- e) facilities
- f) educational orientation, and so forth

Step 3. Relate the operational system to the problem. The inputs identified above (needs and proposed solutions, and context) are then related to each other, which may cause a cyclical reexamination of the inputs in order to delimit the interests and intents.

System Synthesis

Step 4. Specify objectives in behavioral terms. Objectives are phrased in terms of:

- a) target audience;
- b) behavior to be exhibited by the learner after instruction;
- c) condition -- setting in which the behavior is exhibited
- d) degree -- the extent to which the behavior is required to be exhibited.

Step 5. Determine appropriateness of simulation. Simulation has advantages as well as limitations. If limitations outweigh advantages, the designer should consider another instructional technique.

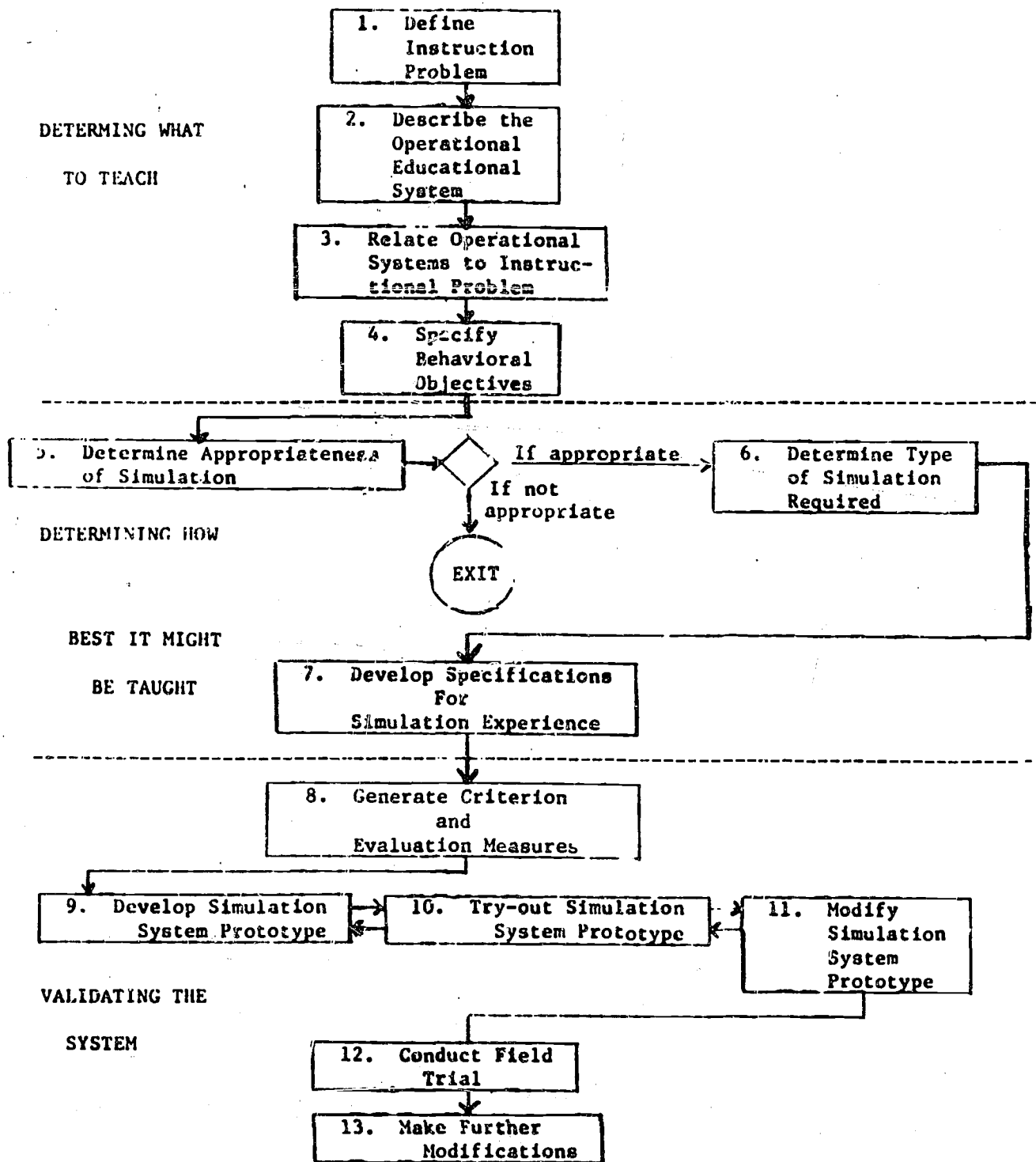


Figure 1. Steps in the Design of an Instructional Simulation System

Step 6. Determine type of simulation required. If a decision has been reached to consider the use of simulation, then the next set of decisions relate to the attributes of the simulation. For example, should it emphasize media or role-playing. Or should it perhaps utilize the unique advantages of gaming, but without any simulation.

Step 7. Develop specifications for the simulation experience. Here the designer specifies the parameters of the model on which the simulation is based, as well as the characteristics of the simulation itself. What is produced, in effect, is a "blueprint" of instructional specifications for the simulation system.

Step 8. Develop the system prototype. At this point, the actual instructional experience is developed from the "blueprints" specified in Step 7.

System Validation

Step 9. Develop the criterion measures and evaluation measures. Before the system can be tried out to see if it works, measures must be developed to assess the degree to which the system meets the intended objectives as well as unstated objectives relating, for example, to affectivity, user satisfaction, etc. At the same time, "formative" evaluative measures are designed to allow the designer to procure information useful in revising the prototype.

Step 10. Tryout the simulation system prototype. An empirical tryout of the system is required, with close monitoring, so that revisions may be made where needed. The system may be tried out with individual learners first, then small groups, and finally in conditions approximating their anticipated use.

Step 11. Modify the simulation system prototype. Decisions made during this phase are based on evidence from Step 10. Generally, Steps 10 and 11 are cyclical in nature. The cycling stops when the system achieves its objectives, or until the designer determines that further revisions or expense are unwarranted or impossible.

Step 12. Conduct field trial. The field trial serves to aid the designer in determining if his newly developed system is capable of standing alone, that is, being used in the field under operational conditions by members of the target population, without the designers intervention to assure success.

Step 13. Make final revisions to the system on basis of field trial evidence. At this time, the designer may also make investigations into ways of disseminating his system.

These procedures were generally followed with respect to the classroom management series of simulation materials. The actual "on-line" decisions that were made at each step are reported in Chapter II. Unfortunately, changes during the course of the project prevented the completion of the discovery teaching materials and their field testing.

The developmental efforts followed with the discovery teaching materials are described in Chapter III.

The Evaluation of the Simulation Systems

At Teaching Research, evaluation is defined as "a process of examining certain objectives and events in the light of specified value standards for the purpose of making adaptive decisions". When instructional systems are designed, decisions must be made continually concerning possible revisions, content or technique, hardware implementation, and so forth. These decisions are made whether or not data are gathered to support the decisions. It is felt, by some at least, that the quality of the instructional system is related to the quality of the data upon which the decisions are made. The objective of this evaluation was to obtain data about the operation of the system in a variety of field conditions.

Since the project was entirely developmental in nature, the emphasis was placed on a formative evaluation to provide useful information that made the developmental efforts self-correcting in that difficulties were identified, attempts at improvements were made, and guidelines were available for future revision not deemed feasible during the project itself (i.e., using the formative evaluation as a basis for revision of the system prior to commercial dissemination). Further, impact or summative evaluation measures were taken in order to describe the effects of the prototype simulation system in the operational system.

No attempt was made at using tightly controlled comparative studies to measure the effect of the Classroom Simulation Materials as compared with other forms of instruction (i.e., traditional or conventional methods). The evaluation design is consistent with the viewpoint of Cronbach (1963) who has stated that the main purpose of instructional evaluation is the development of effective materials and procedures and the discovery of relationships between instructional acts and instructional results. In other words, the role of evaluation is primarily formative; the location, from evidence about student performance, of areas of weakness is an instructional system and the changes resulting in better student performance may be made in an on-line manner. Comparative and non-comparative procedures of evaluation design have been discussed in detail by Saslow (1970).

Formative evaluation. The quality of the decisions made by the educational designer/developer depends upon the adequacy of the information upon which they are based. In the present formative evaluation, four different phases in the effort were used to procure information about the functioning of the system:

- a) A tutorial, individual student try-out
- b) The small group tryout
- c) A field trial
- d) A workshop conference of teacher educators (expert consultation)

Each of these phases are discussed in detail in Chapter II.

Summative evaluation. From the data obtained in the evaluation effort, particularly the field trial, there was information available to examine in some detail the impact of the system in terms of the factors listed below.

- a) Design -- Does the instructional system match well the objectives of instruction as judged by instructors and learners?
- b) Credibility -- Is the content of the instructional system credible and relevant?
- c) Timeliness -- Is the instructional system useful in the educational context as it is now found?
- d) Affectivity -- Does the instructional system create positive affect toward its use?
- e) Strength -- Do the instructional materials have power to change the students' behavior as compared in a pre- and post-test situation?
- f) Reliability -- Does the instructional system perform consistently with given groups of learners.
- g) Robustness -- Does the system "work" in a range of applications without failing?
- h) Manageability -- Is the instructional system feasible to use within the constraints found in the educational institution?

Summary and Overview of the Report

In summary, the project reported in this document had as its primary mission the development and evaluation of a set of low-cost simulation experiences in teacher education. A total of two sets of materials were to be developed, one of which dealt with problems of classroom management, and the other with problems of teaching using the discovery technique.

The development Classroom Management series is reported in Chapter II, and the development of the Discovery Teaching series is reported in Chapter III. Then in Chapters IV and V are reported the evaluation results, and conclusions and implications of the project.

II. The Classroom Management Series

In the discussion that follows, an attempt will be made to show how each phase of development relates to the 13-step model presented in Chapter I. It should be noted, however, that the development of the model in part grew out of the development of the instructional simulation system. No attempt is being made here to disguise the fact that not all steps followed in the project were a result of following the model. Indeed, had the developmental team perceived the importance of some of the steps in the model, many procedures might have been different.

System Analysis

In the earlier papers that report the project, (e.g., Wallen, 1968, reproduced as Appendix A) this phase was referred to as "identification of content". The assessment of educational needs was accomplished, not through observation of teachers in the field (a task or job analysis) but through a search of the educational literature, and subsequent verification, to identify the classroom management teaching principles which beginning elementary teachers have difficulty applying. Reliability of the conclusions reached from the search of the educational literature was tested, again not against classroom observational data, but against a review of the literature in social psychology. And finally, the resulting content, in the form of two classroom management teaching principles was validated against the behavior of student teachers in response to filmed situational problems. The purpose of the latter step was to determine whether students already knew, or behaved as if they knew, the two teaching principles (thus requiring no additional instruction). The results of the system analysis phase was the identification of two classroom management principles that were not being consistently applied in the classroom.

Two efforts were used to determine whether students required knowledge of the two principles learned from the literature. The first effort is summarized below. The second effort is discussed in detail by Wallen in Appendix A and will not be elaborated on here.

The first effort involved the administration of a simulation test to 100 subjects enrolled in 3 educational psychology classes at Oregon State University. The test format was identical to those used with previous simulation studies. The tests had an acceptable reliability. The subjects responses to the filmed situational problems carries important implications for the development of the Classroom Management package. Subjects in general tended to overreact to the classroom management problem. They used unnecessarily severe discipline techniques. In two problems where one child was mildly disruptive in a reading circle, 75% of the subjects responses were unnecessarily severe. In two problems where a child was mildly disruptive during a study period, 89% of the subjects responses were unnecessarily severe. On the other hand, 73% of the subjects reacted satisfactorily to a problem in which a disturbance involving the entire class erupted in the rear of the room.

In two problems where a subject's first response to a mild disturbance was not effective, they were required to make another response; 86% of the subjects escalated, i.e., they used a more severe disciplinary tactic the second time than the first. Of the 86% who escalated, 51% over escalated, i.e., the second disciplinary tactic was a great deal more severe than their first. In two problems where subjects had an opportunity to prepare children for an activity they had never before engaged, only one subject in one of the two problems explained to the children how they should behave in the new activity. The conclusion drawn from the data was that the Classroom Management package should prepare subjects to use more subtle, less disruptive disciplinary tactics.

Content

The classroom management series teaches and exercises the pre-service teacher in two widely applicable teaching principles by which elementary teachers might control children's social behavior in a way which enables the teacher to devote the maximum effort and time to developing children's knowledges, skills, attitudes, and mental and physical health. These teaching principles might be thought of as strategy rules used in a decision-making process that describe the behavior a teacher should display if he wants to accomplish stated objectives with children who are exhibiting a particular behavior.

Principle I

If an activity is about to begin where standards of social behavior have either not been established or have not been previously followed, and the teacher desires to achieve specified management outcomes, then the teacher should use a social standard establishment strategy.

Principle II

If in an on-going activity a child or children behave in a way which violates the management objectives, and the teacher decides to obtain the management outcomes, then the teacher should use a desist strategy which will attain the management outcomes with the least possible disruption of the instruction objectives.

Audience

The classroom management series was designed specifically for college students entering for their first time a teacher preparation program. In some schools, these college students will be junior-level students who have access in an education program to other laboratory experiences with children while receiving instruction in educational psychology and teaching methods.

Context

The classroom management series was designed to fit into existing teacher education programs. The programs vary widely. Some use the

"block" program, or some variant, where several instructors team a course integrating a number of emphases, (e.g., educational psychology, "methods courses, together with participation/observation experiences). Others use rather traditional course structures with one instructor. Many represent large lecture courses with several teaching assistants.

Typically, these programs have access to 16mm motion picture projectors, 35mm slide projectors, and tape recorders. They generally do not have access to synchronized slide-tape equipment. Often, they do not have adequate facilities that allow for movie projection and note taking simultaneously. However, most would have access to a room where students could work singly or in small groups.

System Synthesis

Objectives

Ideally, after training, the student would be expected to exhibit behaviors in a classroom that were consistent with the two principles taught. That is, if a new activity were about to begin and standards of social behavior have not been previously established or followed, then the student teacher would be expected to use an appropriate desist strategy -- one that would attain the management objectives with the least possible disruption of the instructional objectives. Since it is difficult to provide measurement instruments to assess directly and practically these behaviors in a classroom situation, the stated objectives of the classroom management series are phrased in terms of performance in the simulation laboratory with problems that represent novel situations.

Objective 1:

Junior-level college students in a teacher-education program, when confronted with a simulated classroom experience where a new activity is about to begin and standards of social behavior have not been previously established or followed, will establish social standards. The procedures followed to establish the standards should exhibit characteristics such as: a) the teacher tries to make certain that the children understand the meaning of each standard; b) the teacher tries to make certain that the children understand the value of each standard, and c) the standards are specific to one activity. Ninety percent of the students will respond appropriately in 2 out of 3 cases.

Objective 2:

Junior-level college students in a teacher-education program, when confronted with a simulated classroom experience where the pupils did not follow prespecified management objectives, will use a desist strategy that attains the management objectives with the least possible disruption of the instructional objectives. The student's responses will be compared in

type (public or private communication, and low moderate or high level of power used) with a standard deemed appropriate by the designers. That is, it disrupts instruction in a least possible way. Ninety percent of the students will reach 80% proficiency.

In passing, a word might be said in relation to the mode of assessing the objectives. The assessment of performance may be carried out in a number of ways, such as:

- a) eliciting a related behavior that must be inferred on the basis of logical relations;
- b) eliciting "what I would do" behavior, where the student states what action he would take to solve a problem, given a description of a problem situation;
- c) eliciting life-like behavior, where the student gives life-like responses to life-like stimulus situations; and
- d) observing real-life behavior.

These and others are discussed in detail by Frederiksen (1962), pp. 323-346). In the present case, an attempt was made to provide as realistic a stimulus as possible (motion pictures) since Schalock and his colleagues (Schalock, et al, 1964) have shown that as test stimuli become more representative of the behavior to be predicted, and as the opportunity for response approaches the freedom characteristic of life situations, the power of prediction increases. Of course, it would be most desirable to have measured performance in an operational situation, but prior attempts at such assessment have been less than adequate. Perhaps future efforts will include the necessary funding to develop the methodology required for such realistic assessment in an operational setting.

Appropriateness of Simulation

In retrospect, it seems easy to state why simulation is appropriate for fulfilling these objectives. Some advantages of simulation have been cited by Crawford and Twelker (1969) which seem to hold here:

- a) Simulation is useful when affective behavior is involved. Managing a classroom involves a large element of affective behavior that cannot be ignored.
- b) Affective and cognitive behavior are combined. Simulation allows for the planned integration of feeling and thought.
- c) Motivation and sustained learner activity is engendered by simulation.
- d) When the learner is required to interact with a complex and reactive environment in order to achieve maximum transfer of textbook knowledge to classroom skill, simulation can meet this requirement.
- e) Incorporation of the behavior within the personal domain of the learner is possible through simulation.
- f) Behavior may be applied under a variety of contexts. Simulation holds the promise of providing an interest--sustaining mode that may carry him through the requisite exercise.

- g) A "perceptual frame" to sensitize and direct the learner is possible to achieve through simulation. The unique potential of simulation is that the learner does not simply learn to talk about the frame of reference -- he acts as though it actually possesses him.

Determination of Type of Simulation

When the proposed project was initiated, there was never any real question that a system similar in type to the early Kersh work would be developed. How else could classroom situations be presented as a stimulus for decision-making if it were not through media. Input can be precisely controlled. Human role players, no matter how carefully instructed, can deviate from an intended direction. Furthermore, the media presentation, once developed, is reproducible and can incorporate planned variation. Visual-type media displays can communicate non-verbal situations accurately when words cannot transmit the message.

Specification of the Simulation Experience

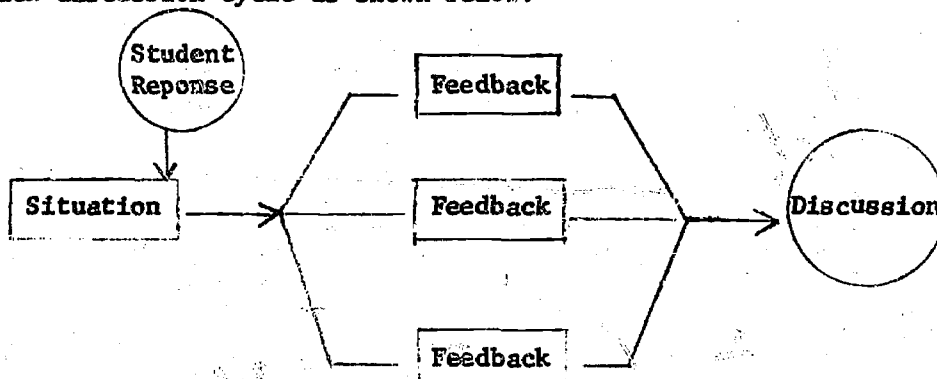
The major decisions that were made at this point in the project involved:

- a) instructional strategies;
- b) format of the media;
- c) hardware.

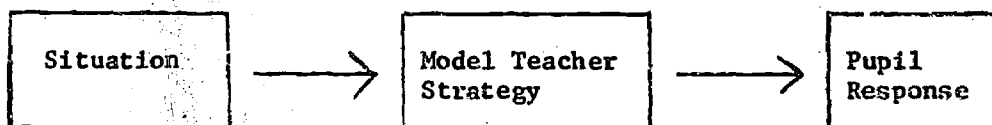
Each of these factors are discussed below.

Because the system analysis phase of the project identified two teaching principles not in the repertoire of the junior-level student, it was obvious that these principles had to be taught before they were exercised using simulation. (Contrast the original Kersh materials where principles or "standards" were a by-product of simulation training.) Phase I training, then, introduced students to the two principles of classroom management while Phase II exercised the student in applying these principles in response to realistically filmed (simulated) episodes. Phase I training is largely inductive. Whenever possible, students are asked to draw conclusions based on a number of classroom situations presented to them.

The strategies to be followed in Phase II presented more of a problem. The original Kersh simulator involved in situation-response-feedback-discussion cycle as shown below:



Monitoring the entire experience is an instructor. In an individualized mode, this technique is impossible to use as the student must act as his own monitor. Thus, selection of an appropriate feedback becomes difficult if not impossible. Therefore, the following cycle was developed:



In this case, the student responds to the simulation episode covertly, the records his response, then sees a model teacher strategy (one response out of many possible responses that are appropriate, at least in terms of the type of response), and finally, sees a predicted pupil consequence. Phase I uses an integrated set of materials including a student manual and film-tape presentation. The film-tape presents a series of classroom episodes to illustrate the principles and concepts being taught. Phase II uses motion pictures integrated with an orientation booklet and student manual. The motion pictures are used to present the simulation episodes that are filmed from the students' point of view. That is, no teacher is present in the film. Students in the simulated classroom look directly into the camera and hence when the film is viewed, the illusion of children reacting to the student teacher is presented. Both programs are supplemented by class or small group discussion or student-instructor (tutorial) discussion either during or after the formal training session.

Although the materials may be used in a variety of settings, three general modes were specified for Phase I. They include:

- a) **Conventional Classroom Instruction:** In this case, the instructor makes use of a slide projector, tape recorder and program synchronizer to present the classroom situations. Each student is provided with a manual in which he may take notes and write his responses to exercises. Class discussion is used to answer questions about an episode or an exercise.
- b) **Self-Instruction:** Here, a student is provided with a projection system that synchronizes the slides and tapes. Typically, a study center or other private area is used. If noise is a factor, earphones may be used. The manual is written so that the student is guided from slide-tape to manual and back again without any outside assistance. When the self-instructional mode is used, it is recommended that opportunity be given regularly for small group discussion. Many of the points raised in Phase I can be profitably discussed. An alternate to this plan would be to provide a tutor that would always be available to answer questions and help students straighten out any difficulties. A schedule could be arranged to have several students studying in a room at one time, always within reach of support and guidance from an assistant or tutor in or near the room.

- c) **Small-Group Instruction:** In this mode, three to five students could work together with the slide-tape projection system. An advantage to this system is that students have an opportunity to discuss between themselves pertinent points raised by the program. A disadvantage is that it, like the conventional classroom mode, paces every student with the group, not individually. Yet, this mode seems to be quite effective in practice.

The specific equipment used, and the learning space arrangements are discussed in the Instructor Manual, Appendix B.

In Phase II, three modes may be used:

- a) Individualized laboratory (tutorial) instruction: (Identical to the original Kersh "simulator");
- b) Conventional classroom instruction;
- c) Self-instruction.

These modes are described in detail in the Instructor Manual, reproduced in Appendix B.

A film-tape presentation was used for Phase I in lieu of motion pictures because of cost considerations, and because prior research indicated the superiority of still pictures over motion pictures for efficiency of training (cf. Kersh, 1963). Motion pictures were used in Phase II primarily because of the affective response enlisted from students (cf., Kersh, 1963; 1965).

In summary, it is interesting to note the remarks of Forgan (1969) in his doctoral dissertation. Without benefit of the present report, he made the following statements that correctly describe the instructional strategies held important by the designers.

"In developing simulation materials certain assumptions are made about how students learn. The following learning principles, mentioned by Burton (1963), are inherent in the materials:

1. Immediate knowledge of results is important in the learning process; thus, feedback is presented in the manuals and films.
2. The learners should be active; hence, the students are asked to identify the problem, respond, explain their response, and evaluate other possible responses.
3. Application of principles to problems is conducive to generalization; consequently, the student teachers learn only two principles and are given the opportunity to apply the principles in 36 situations.
4. Guided discovery increases retention; therefore, the principles are never stated. Instead the students are led to discover the relationships and state the principles.

5. Learning experiences must be realistic and meaningful; thus, the situations were selected on the basis of research concerning difficulties encountered by beginning teachers.
6. Individuals differ in their maturity and ability; consequently, there are provisions to re-cycle.
7. Learning proceeds from the simple to the complex; hence, in most cases the situations become more difficult.
8. The learner must see the whole and then consider specific parts; therefore, teaching is defined and analyzed before working on specific objectives.
9. The learning situation is dominated by a goal or purpose set by the learner or accepted by him, consequently, specific behavioral objectives are listed throughout the program.
10. The learning process proceeds most effectively under that type of instructional guidance which stimulates and provides for successes rather than for failures; thus, the materials are programmed in such a way that the learner is almost always guaranteed success.
11. There is no substitute for repetitious practice in the overlearning of skills; hence, many situations are provided in which the same principles are being applied.
12. A problem-solving approach to learning aids understanding and application; therefore, problems are shown and the students respond by using the steps of the problem-solving process."

Prototype Simulation System Development

During a summer session, fifth and sixth grade pupils were filmed in a special facility called the Teaching Research Automated Classroom [cf., Twelker, 1967 (b)]. All situations were scripted and rehearsed before being filmed. Occasionally, a video tape recorder was used to record the rehearsals and to allow children to see themselves immediately. This technique not only provided for enhancement of motivation, but allowed the directors to assess the staging and acting of the children. When pupils were not active in filming, they were taught by the teachers in a regular summer program. Concurrent with filming was the development of the student manual (see Appendix C and D), and orientation booklet (see Appendix E).

Evaluation Measures Development

In Phase I training, criterion measures for enabling objectives were built into the program itself. For example, in Part 1, the criterion is 8 out of 10 items correct in Exercise 2 (see p. 7 of the

Student Manual, Appendix C). In Phase II training, "Day 3" constituted a self-test.

The development of the other formative and summative measures was another matter however. The goal in the development of such measures is the procurement of useful information on which to base adaptive decisions. The information elicited does not come by accident. Indeed, if precise questions are not asked, the information elicited may be irrelevant (be of such a nature that the answers seem as though they are in response to other questions, and be useless for making decisions).

Four different measures were prepared for the present effort. The first, the "Instructional System Analysis" was primarily intended for instructors, instructional systems experts, and subject matter experts. This analysis helps a rater to be objective in judging the instructional value of the system. A similar form entitle "Student Analysis Form" was used to obtain information from students using this system. Students were also given a Thurstone-type attitude scale, the "Student Attitude Questionnaire" which assessed their affectivity toward the experience. A final evaluative instrument developed especially for the field trial was the "Implementation Analysis" to be completed by each field-trial representative. This evaluation elicited precise information concerning problems encountered, the use of the materials, students involved, research done with the materials, and so forth. the instrument was the sole means of assessing the various contexts in which the system was used in the field. It is crucial in that if differences were found in performance between field trial sties, the information elicited by this instrument would provide clues to the differerces. All of these evaluation measures, together with a guide for their use, appear in Appendix F.

Tryout and Modification of the Simulation System Prototype

The tutorial tryout. Tryouts of the simulation system with one learner at a time is a critical step, expensive but worthwhile. The procedure is simple with the prototype materials in hand, the developer sits with a student that represents the target population² while the student goes through the system. If there is something that the student misunderstands, either to the working, unclear audio or visual presentations, and so forth, these points are noted. Often they are corrected on the spot: the developer asks the student to rephrase the direction of suggest other camera angles for the picture.

This type of evaluation is costly in terms of designer time, but probably more than makes up for the cost in terms of future changes in inappropriate materials. Information gained in tutorial tryouts can provide information impossible to obtain otherwise. The key is probably the "open endedness" of the situation. All troublesome points, however minor, are noted on the spot. Questions are not depended upon to elicit information. Rather, it is the frank "on-line" interchange between stu-

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2. The use of learners that represent the target population is probably not necessary, at least the first time around.

dent and developer as they both interact with the materials that provides information.

In the present program, about six students from Oregon College of Education were taken through the system a step at a time. Students were staggered so that changes could be made between tryouts.

The small group tryout. The next stage in the formative evaluation involved classes of learners at Oregon College of Education. In this case, the materials were administered by OCE staff under the close eye of the development staff. Student manuals were collected and examined. Problems that were encountered were noted and corrected.

Expert consultation. The field trial provided an opportunity for another phase of formative evaluation -- teacher educators from the field trial sites examined the materials closely during a workshop conference (described below). This examination of the materials was done well in advance of the field trial so revisions could be made to the materials before their use in the field.

Field Trial

The field trial was used to test the manageability and effect of the instructional system under operational conditions. For the most part, field trial site representatives were responsible for deciding how the materials would be used in their particular setting. Questionnaires described above were used for collecting information. In addition, a random sample of student manuals were collected and examined for errors and any difficulties that might exist. Since Phase I taught the principles required to perform satisfactorily in Phase II of training, any failure in learning evidenced in Phase I could be ascertained. In addition, a student self-evaluation test given at the end of Phase II training allowed the development staff to assess the degree to which the objectives of training were met.

The field trial was made an integral and important part of the formative evaluation as well as the impact evaluation. Previous to the field trial a developer has seen his system work (for him). But the question that remains is: does it work for others as well? So the field trial represents a hands-off evaluation. And if the system fails, the reasons for its failure are noted and hopefully corrected.

Selection of field trial sites. A number of inquiries to institutions having teacher preparation programs of various sizes and in various geographic areas were made. (See Appendix G for correspondence to field trial sites). Each prospective field trial site completed a questionnaire that allowed the developers to better choose a range of institutions representing a number of different problems that might be encountered in the field when the materials were used on a general basis. For example, questions were asked concerning the number of students enrolled in the institution, and in the elementary education program. Questions were asked to ascertain the interest of the institution in using one or another mode of instruction (individualized, small group, or large group for example). From the data received, ten field trial

sites were chosen; two on the West Coast, Oregon College of Education and University of Oregon; one from the Rocky Mountain region (a private institution), Brigham Young University; one in the Southwest, University of Texas at Austin; three in the Mid West, Illinois State University, Michigan State University, Kent State University; three on the East Coast, Shippensburg State College, West Virginia University, and State University College, Brockport, New York. The teacher education programs ranged in size from 3,500 (Michigan State University) to an elementary education program enrolling 220 (West Virginia University).

Workshop conference for field trial representatives. Prior to the initiation of the field trial, the ten representatives from each of the schools selected were brought to Teaching Research for a three-day conference (see Appendix H for the conference schedule). The purpose of the conference was to orient the representatives to the Low-Cost Instructional Simulation Materials and to the evaluation design. Participants were provided an opportunity to participate in training sessions using the materials and to critique them after their use. Procedures that were to be followed in the administration of the evaluation instruments were discussed in detail to assure credible and useful data.

Field trial conduct. Each field trial site was given enough materials to use with a portion, or all, of their students. The field trial officially lasted three terms (Fall, 1968, Winter, 1969, and Spring, 1969). Some data were collected during the summers of 1968 and 1969, as well as the Spring of 1970. In the latter case, a dial-access system was used at Shippensburg State College in Pennsylvania.

Each term that the institution could participate in the field trial, student manuals and evaluation instruments were provided. Because of local administrative considerations at the various institutions, not all institutions used the materials or collected data all three terms. Further, no institution elected to use Mode A (Individualized Laboratory Instruction) for Phase II training because of the cost involved. Therefore, the field trial involved the tryout of all modes of Phase I training, and two of the three modes of Phase II training.

Final Modifications

Minor changes were made to the materials during the field trial. Major changes on the basis of the field trial data were not made. However, a list of recommendations based on these data are included in Chapter V.

III. The Discovery Teaching Series

The feasibility of using simulation training for classroom management has been well established through the years of research at Teaching Research and elsewhere (cf., Kersh, 1963; 1965; Twelker, 1967 (a); Cruickshank, 1966, Vicek, 1965). It is a relatively easy task to simulate a classroom disruption or event, and to ask a learner to respond as if he were the teacher when the film stops. Providing feedback sequences to follow the learner response is a bit more difficult, but certainly possible.

It may be an entirely different matter when it comes to simulating instructional acts. Can simulation training, using the format originally devised by Kersh, be used to develop in trainees skills in responding to cues and applying general principles of instruction in the classroom?

At the start of the project, the answer to this question was unknown. It was thought to be possible. When the project was initiated, a study had just been concluded that showed that it was possible to provide a simulated environment which was not limited to discrete problem sequences (cf., Beaird and Standish, 1965). Recall that the classroom simulator used a stimulus situation-learner response-feedback-halt cycle in instruction. Rarely could the feedback serve a dual role as a stimulus situation that could be followed by another learner response and feedback sequence. (In fact, when this did happen, the experimenters were often quite jubilant. It added to the realism of the experience and facilitated positive learner affect.) Beaird and Standish diagrammed the Kersh classroom simulator as follows:

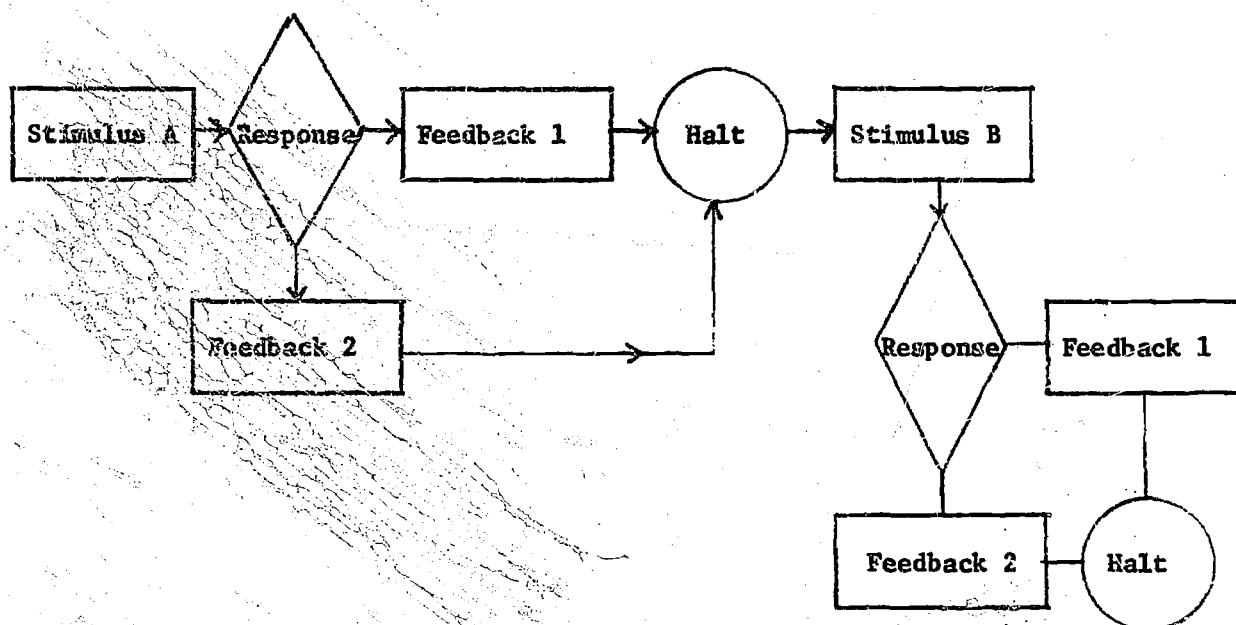


Figure 1a. Stimulus-Response-Feedback Paradigm of the Classroom Simulator (reprinted from Beaird and Standish, 1964).

It was pointed out that in real-life situation, the model used by Kersh seldom holds. Feedback sequences usually become the next stimulus situation in a lengthy series of interactions between the learner and the simulated environment. This "contiguous" sequencing was diagrammed as follows:

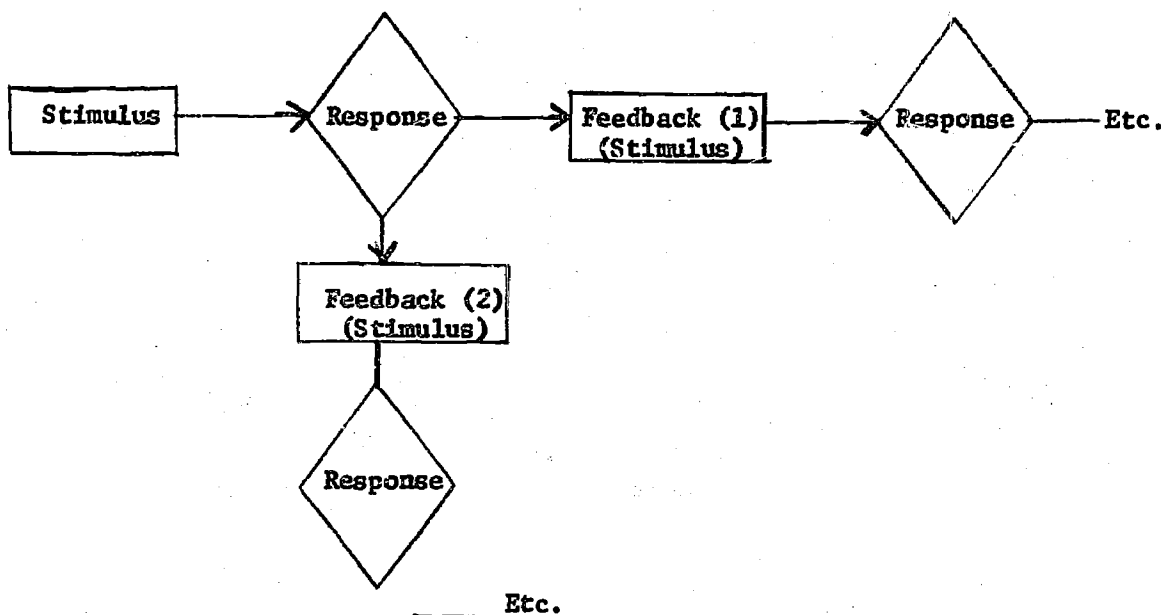


Figure 2a. Stimulus-Response-Stimulus Paradigm for Contiguous Simulation (reprinted from Beaird and Standish, 1964).

Of course, the problems presented in contiguous sequencing are at first glance overwhelming:

- a) experimenter anticipation of possible responses becomes tenuous;
- b) hardware requirements become more demanding;
- c) student self-administration and monitoring of the system becomes difficult.

Yet, Beaird and Standish did show in their study that the interaction of two persons, a client (simulated) and a counselor (live) was possible, using the medium of a tape recorder. The live counselor-trainee actually interacted with this man-machine system in such a way that some aspects of his behavior changed. While the system was inexpensive (only a tape recorder being required), an experimenter could monitor only one trainee undergoing the experience at a time.³

3. Since Beaird's pioneering work with audio-simulation, the technique has been applied in foreign language training by Dr. George Brown, Senior Staff Scientist with the Human Resources Research Office. Several exercises involving "simulated tutoring" and "simulated conversations" have been developed and tested in the military setting (c.f., Brown, 1968).

The implications of the study to classroom simulation, especially with respect to exercising skills in instruction (rather than management), are clear. With some success, it could be argued that classroom management problems could be looked at discretely. But not so with instructional acts, unless one were to consider a lecture or other forms of one-way communication. (In this case, why would simulation be used anyway?) Instruction often involves a rather steady stream of tutorial statements, all related to each other and somewhat dependent on each other. To treat instructional acts as non-contiguous if of course permissible under the rationale for using simulation, i.e., simulation omits certain elements of reality, and caricatures other elements, but it might be an intolerable compromise resulting in a loss of achievement and affect. Practicing instructional skills in a non-contiguous manner seems as strange as practicing a right-hand turn, followed by dropping the landing gear, followed by raising the nose, etc. as if they were discrete tasks. A criterion for assessing the state of the art in classroom simulation just might be the extent to which contiguous sequencing is brought into the learning experience.

With these considerations, the task of determining the format and content of the Discovery Teaching Series was initiated. A matter of top priority was the definition and subsequent specification of the characteristics of discovery learning and discovery teaching.

System Analysis

Again, as in the Classroom Management Series, the identification of content represents a keystone activity on which all else hinges. As there was no precedent for development of the discovery materials, and it was anticipated that extensive preliminary work would have to be performed in their preparation, a working conference on Discovery Teaching was held in December of 1965 to establish the conceptional framework for the discovery materials. Attending a working conference were three consultants: Dr. Robert Davis, Director of the Madison Project, Syracuse University; Dr. Jack Easley, University of Illinois; Dr. Sheppard White, Harvard University.

The participants and the project staff found the working conference stimulating, but the net results that were hoped for did not materialize. After the conference, the staff was in no better position to develop a conceptual framework for the materials than before the conference. What they did have was a seemingly disjointed array of opinions and speculations, as well as hopes and directions for the future.

One problem was, of course, the same one that has existed ever since the term "discovery" came into popular usage: definition and identification of its parameters.

Davis (1965) stated that the Madison Project assumed that "the ability to discover patterns in abstract material is one of the most essential mathematics skills - quite possibly the most essential skill." To this end, the primary goal of the Madison Project teaching is to provide students with as much experience as possible in discovering patterns.

Unfortunately, Davis never defines discovery, except to indicate that it means quite different things to different people. Then he strongly suggests that no one form an opinion of what the Madison Project means by discovery teaching till after they've used some of the films which show actual classroom lessons or visit an actual class using the materials.

Easley (1966) contributes little more to our knowledge of a definition of discovery teaching.

"Teaching by discovery, however the boundary disputes may turn out, will, I hope, include procedures in which students participate overtly in content development and themselves propose and carry out strategic steps in resolving puzzles."

However, undaunted by the lack of a clear definition of teaching by discovery, or for that matter a precise list of characteristics, Easley elaborates in some detail the presumed effects of teaching by discovery, e.g., discovery teaching creates more of an adaptive system than by teaching by exposition, etc.

The third consultant to the project, Dr. Sheppard White, aptly stated that "there's a lot of excitement about it (discovery teaching) and yet we don't know what it is." He related his experience at a conference of about 20 experts in the field who met for five days and tossed the word "discovery" back and forth. At the conclusion of that conference, he indicated that their reward for five days was a unanimous vote that the word discovery be deleted from our vocabulary. White then went on to describe what he felt were some major considerations or characteristics of discovery teaching. These fell under the headings of: 1) creating a proper atmosphere to permit discoveries to occur; 2) encouraging in students some general strategies to be innovative or creative; and 3) providing specific helps when students are on the verge of making a discovery.

Although Easley and Davis, and to some extent White, did not care to go out on a limb and define discovery teaching or indicate its parameters, they were more than able to talk in rather precise terms about specific teacher behaviors that were thought to be part of teaching by discovery. The following list, by no means exhaustive, was drawn from the written comments of Davis and Easley and from the recorded comments of White.⁴ The list parcels teacher behaviors into three categories (our own):

- 1) Operational teacher behaviors: those actions taken by the teacher that represent more or less definite moves for the purpose of encouraging or guiding searching behaviors (the emphasis is on initiatory behavior);

4. Excerpts from recorded or written remarks of each consultants are presented in Appendix I.

Table 1. Some Techniques of Discovery Teaching

Operational Teacher Behaviors

Teacher leads pupil to sequentially discover material for himself as compared with presenting a generalization of a pattern first.²

Teacher makes a suggestion that is in fact inappropriate to force students to examine closely the (mathematical structure of the material).¹

Teacher interjects guidance or reinforcement in a discovery situation as unobtrusively as possible.¹

Teacher surprises pupil with new stimulus to cause him to shift strategies.²

Teacher leads pupil to learn something about how to discover for himself as compared to providing a complete education for him via discovery.²

Teacher gives pupils extensive practice in seeking underlying patterns and order in events--to look for recurrent common elements. He arranges material in such a way that there are nearly always patterns to discover.^{1,2}

Teacher leads pupils to pay attention to detail--to look at things closely.²

Teacher leads pupils to pay attention to anomalies when a strange event occurs.²

Teachers leads pupils to learn to "mess around" with information.²

Teacher listens to the pupil as carefully as possible to get away from enforcing his own expectations as to what the child says.¹

Teacher passes judgment on such matters as:

- 1) "Is this particular cognitive structure suitable for the assimilation of the ideas with which we are presently working?
- 2) Is this particular cognitive structure a suitable one from which we can ultimately get to a more sophisticated structure?
- 3) Are the emotional, social and cognitive aspects of the classroom such that the pupil will move from less sophisticated to more sophisticated cognitive structures?
- 4) At what point is it desirable for the pupils to become aware of some of the limitations of a given structure; when should the pupil develop a new structure; what should he do to facilitate the formation of a new structure?"¹

Teacher gives praise and affectionate warmth in securing reasonable social behavior. He does not use it often to reinforce discovery behavior. Rather he uses intrinsic reinforcement in two forms: 1) that derived from solving a problem and 2) that derived from being able to tell others about what has been discovered.¹

Teacher presents a more difficult problem when pupils are stuck with an easy problem.²

Teacher helps pupils form the habit of questioning even when there are no explicit external cues suggesting that they question.¹

Teacher leads pupils to develop an orderly plan of search.²

1. From Robert Davis' remarks

2. From Sheppard White's remarks

Adaptive Teacher Behaviors

Teacher allows his actions to be controlled by the pupils' response.³

Teacher is adaptive to individual differences in the sense that all students are appropriately challenged and occupied.³

Teacher modified his approach through the use of adaptive feedback so that he never teaches the same subject twice in the same way.³

Teacher creates new "branches" in a previously developed lesson plan on the basis of an on-the-spot evaluation of learning (not merely choosing among the branches of a previously developed plan).^{1,3}

Teacher shows ability to construct suitably designed "branching programs" in a discussion at a moment's notice.³

Teacher shows evidence of sagely interpreting student utterances and making specifically appropriate responses rather than stereotyped (fixed program responses).³

Teacher abandons his current teaching tactic and strategy in favor of some other more attractive possibilities.³

Teacher adapts new objectives as new possibilities appear.³

Facilitative Teacher Behaviors

Teacher selects problems of a difficulty that the pupil can master.¹

Teacher makes sure that pupils are never to assume a passive role.¹

Teacher is nonpunitive and allows the child freedom to "wander around and discover"--he makes it as easy for him to be wrong as it is for him to be right. This may be called the setting of a condition of "playfulness".²

Teachers gives freedom to pupils to maintain a high level of motivation: freedom to define own method of attack, to define what an acceptable answer is, etc.¹

Teacher accepts wrong answers--he does not protect the pupil from error.¹

Teacher allows students to monitor their own information flow.³

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1. From Robert Davis' remarks
 2. From Sheppard White's remarks
 3. From Jack Easley's remarks

- 2) Adaptive teacher behaviors: those actions that represent the changing or abandonment of teacher strategy, technique, style, or procedure to keep the discovery situation going (the emphasis is on reactive behavior);
- 3) Facilitative teacher behaviors: those actions that complement the other two behaviors, and are generally thought of as "establishing the appropriate climate" for discovery.

One thing is very obvious from even a cursory examination of the teacher behaviors: discovery teaching involves a skilled teacher who is constantly monitoring, guiding, and facilitating discovery learning. As one watches filmed episodes of Davis' teaching, it becomes obvious that here is a man whose teaching is a skillful blend of preparatory, initiatory, and reactive behaviors. But even if these moves could all be identified, and confirmed in other examples of discovery teaching, how could we expect a 5-10 hour "discovery teaching" simulation package to teach and exercise these behaviors when it takes weeks or months of training, practice, critique, and more practice for Madison Project participant teachers, for example, to perfect their discovery teaching skills? This concern is crucial since simulation is primarily useful for the exercise of higher order skills such as information processing and decision-making, not information acquisition.

If the Discovery Teaching Series were to be at all effective, it was clear that it must select only the most important features of discovery learning, and then settle for teacher behaviors far from "terminal". To this end, the decision was made to provide an introductory experience for the student in the area of discovery learning/discovery teaching, and to build into the package an element of "open-endedness" so that instructors with different viewpoints could use the materials easily.

What are the highlights, the crucial characteristics of discovery learning and discovery teaching? From an examination of the literature on the subject and from a review of teaching experiences generally identified as "discovery", the following gross characteristics emerge:

Discovery Learning

- a. Learner perceives a problem
- b. Learner can bring to the situation no ready solution
- c. Learner exhibits solution-directed behavior

Discovery Teaching

- a. Teacher focuses students attention on problem
- b. Teacher encourages student in his efforts of discovery
- c. Teacher guides student indirectly
- d. Teacher provides a climate for exploration
- e. Teacher provides "spring-boards" for further discovery

Several things may be noted from this listing:

- 1) Teacher behaviors are directly tied to learner behaviors. For example, if a learner does not perceive a problem, the first four discovery teaching behaviors (a more accurate term would be "categories" of behavior) could be used to aid the learner or provide a more favorable opportunity for discovery. Again, for the second student behavior, the first four teacher behaviors are appropriate. For example, appropriate probing by the teacher may help the student establish that he has no ready solution.
- 2) With the possible exception of the second teacher behavior, the behaviors listed are open-ended.⁵ They allow interpretation by the preservice teacher as well as by the instructor. Individual teaching styles are recognized to exist, and are not thwarted by the list.
- 3) The "bare-bones" listing captures the essence of discovery learning/discovery teaching that allows students to build their own repertoire of behaviors most suited to their evolving teaching styles.

System Synthesis

Objectives

After training, the student would be expected to be able to use in a classroom situation behaviors in each of the five classes outlined below:

- 1) Focusing on the problem
- 2) Encouragement of discovery
- 3) Guidance of discovery
- 4) Provision of a climate for exploration
- 5) Provision of "springboards" for other discovery

He would be expected to use these behaviors in a way that the desired pupil outcomes would in fact be achieved. As indicated in Chapter II, it is difficult to develop measuring instruments to assess in a direct and practical way these behaviors in a real-life setting. Therefore, the stated terminal series is stated in terms of performance in a micro-teaching situation:

Junior level college students in a teacher-education program when involved in a micro-teaching situation, and have previously established teaching objectives that represent discovery outcomes/

-
5. Davis and other Madison Project teachers rarely use encouragement or "praise" except for social behavior. They shun extrinsic motivation (e.g., praise for searching) in favor of intrinsic motivation (e.g., the pupil derives peers of his discovery). This is by no means a universal technique among discovery teachers.

effects, will use behaviors in each of the five classes in such a way that the pupil learning outcomes are achieved, as measured by a suitable instrument.

Appropriateness of Simulation

As established in Chapter II, simulation is an appropriate instructional technique in a number of situations. At the beginning of this chapter, the feasibility of using simulation was questioned. In this regard, it was not so much a question of mere effectiveness of simulation in this situation as it was a question of practicality in terms of cost, hardware requirements, instructor time (not to mention training), etc. From all available information, simulation seemed worth using.

Determination of Type of Simulation

When the project was initiated, there was never any question that motion picture films would be used. As the project progressed and thinking was clarified concerning the nature of the discovery teaching experience, other media and non-media forms were entertained.

Consider this example. A student sits down in front of a six-track sound motion picture projector. An instructor sits at his side. On the screen appears a classroom scene. The student is told the learning objectives of the lesson. They involve typical outcomes of a discovery experience. Then the simulation starts. It is a science lesson in mid-morning. The student is told to begin by telling the class a story that concludes with some type of problem posed or some open-ended question that will cause the pupils to move into a discovery situation. The student begins. After a while, the instructor changes to another track. The pupils begin to get drowsy and lose attention to the story. The student perceives this, and quickly concludes his story. He elicits comments from the class. A new track is presented, where a pupil poses a problem. The student misses this cue to move into a discovery situation, and answers the problem directly. Still another film track is shown, where affect drops noticeably. The student does not respond immediately, then realizes his mistake. The next time a pupil poses a problem, he focuses in on the problem rather than solving it. The instructor switches to a film track showing that the class has no ready solution. The simulation goes on, exercising the student in giving appropriate encouragement and guidance in establishing a climate for exploration (here he might be confronted with an obviously wrong answer -- the student has a chance of allowing it to stand, correcting the pupil, etc.) and in providing springboards for future discovery.

Although this is a hypothetical example, it certainly would be possible to create given the necessary hardware, instructor time, and so forth. But it hardly represents a low-cost approach. And to extract out single stimulus-response-feedback cycles was rejected except in instances where such extraction clearly does not render the situation unnatural or impossible to react to.

Two types of simulated situations are illustrated in the discovery manual. One is the now common motion picture simulation which requires

a student response. The second is a group role-playing situation where five to seven students are given role information. One is instructed to be the teacher, the others to be the pupils. The role-play is set up so that the teacher is exercised in a variety of behaviors and is given the opportunity to adapt his behaviors to the structured behavior of the "class". A third technique is also illustrated: "The Discovery Teaching Game" where three to five teams compete against each other to arrive at the best answers or solutions to stated problems.

Specification of the Simulation Experience

The format of the discovery materials largely parallels that of the Classroom Management Series. Phase I introduces students to the discovery learning/discovery teaching characteristics (the three discovery learning behaviors and the five discovery teaching behaviors) while Phase II exercises discovery teaching behaviors in a realistic manner. Phase I is largely inductive, and students are asked to draw conclusions based on a number of classroom situations presented to them. The discovery teaching behaviors drawn from the work of Davis, Easley and White are presented in Phase II in the form of a checklist that is utilized during the debriefing following every problem.

Motion pictures are specified for Phase I, and portions of Phase II. Motion pictures are specified rather than the slide-tape presentation used in the Classroom Management Series because it was felt on the basis of a preliminary evaluation of the management series that far too many compromises must be "lived with" given the current state of the technology. Further, it was felt that capturing the essence of many discovery situations, especially nonverbal ones, was not feasible using slide-tapes. It was also for this reason that an audio-simulation was rejected.

In Phase I, the three modes of training outlined for the Classroom Management Series applied for the Discovery Series. In Phase II, a situation where five to seven students work in a small group is most appropriate because of the necessity of discussion. Of course, it is entirely feasible for an entire class to split into small groups, thus allowing the use of the materials in lecture hall situations.

Prototype Simulation Development

During a summer session, fifth and sixth grade pupils were filmed in the TRAC facility. All situations in Phase I training were filmed at that time. Concurrent with and following filming was the development of the student manual (see Appendices J and K).

Unfortunately, completion of the films and the manual was not possible for reasons previously discussed. Also, some of the film footage designed to be used in Phase I as examples of discovery teaching was judged to be better examples of non-discovery teaching. Since completion of the materials was not possible, it was decided that the best possible contribution to the field, short of the actual materials, would be a manual that illustrated how simulation could be used in a

low-cost situation. To this end, portions of the manual are not complete, but contain narratives of filmed situations or role-play instructions for small groups. No field trial was made of these materials.

IV. Evaluation: Analysis of The Results

The data summarized below concerns only the Classroom Management Series. It represents information gathered during the field trial both from instructors and students using the materials. Because of the vast amount of information that was available for purposes of making adaptive decisions, there has been no attempt at discussing every detail. Rather, the discussion follows the eight evaluation factors mentioned in Chapter I, as well as some of the more important considerations that may be useful for further adaptive revision.

It should also be mentioned that an extensive study of the effects of the instructional simulation materials on selected teaching behaviors and attitudes was conducted by Forgan (1969) for a doctoral dissertation at Kent State University. Because of the limited availability of that document, its results will be summarized in this report. However, the reader desiring a more thorough discussion of that study is directed to the source document.

Design

Does the instructional system match well the objectives of instruction, as judged by instructors and learners?

Instructors Evaluations

The readers attention is drawn to Table 2, wherein is presented a summary of data from the Instruction System Analysis. To answer the above question, special attention should be paid to the data for Questions 1, and 5 through 17. For purposes of judging the adequacy of the system, the following guidelines were used:

<u>Median (or Mean) Score</u>	<u>Judgment</u>
1 - 2.99	Clearly inadequacy; major revisions indicated
3 - 3.99	"Warning flag"; if score consistent across terms, revise system
4 - 4.99	Marginal adequacy; if score consistent across terms, pay particular attention to possible revision of system
5 - 6	Clearly adequate; no revisions indicated.

These guidelines hold for the interpretation of all data using the 6-point scale.

Instructors using the Classroom Management System clearly indicated that they thought the design of the system was appropriate on the majority of the scales. For example, they felt that:

Table 2. Summary of Data from
Instructional System Analysis

1. Are the objectives of the instructional system clear? (Ambiguous - Clear)
1 6

Term	Median Score	
	Fall 1968	5.
	Winter 1968-69	4.5
	Spring 1968	5.

2. Will the instructional system attract and hold the interest of the target audience? (Dull and Boring - Very Interesting)
1 6

Term	Median Score	
	Fall 1968	4.0
	Winter 1968-69	3.0
	Spring 1968	4.

3. Does the instructional system build on previous knowledge, skills or experience of the target audience? (No Relation - Integrative)
1 6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968	4.0
	Spring 1968	4.0

Table 2. (continued)
 4. Is the subject matter presented in this instructional system appropriate
 for the course of training of the target audience? (Not Appropriate - Appropriate)

1 6

Median Score	
Term	
Fall 1968	5.
Winter 1968-69	5.
Spring 1968	4.5

5. Does the content relate directly to the main objectives of the instructional system? (Unrelated - Appropriate)

1 6

Median Score	
Term	
Fall 1968	5.0
Winter 1968-69	4.5
Spring 1968	5.

6. Is the content presented in a well organized, systematic pattern? (Confused - Organized)

1 6

Median Score	
Term	
Fall 1968	5.
Winter 1968-69	4.5
Spring 1968	5.

7. Are the important ideas or procedures clearly emphasized? (Vague - Clear)

1

6

Median Score	
Term	
Fall 1968	5.0
Winter 1968-69	5.0
Spring 1968	5.0

Table 2. (continued)
8. Does the instructional system attempt to present too much materials for the intended audience to learn? (Too Many Points - Learnable Amount of Information)

Term	Median Score	
	Fall 1968	5.
	Winter 1968-69	4.0
	Spring 1968	4.5

9. Are new facts, ideas, terminology or procedures introduced at a rate which will permit learning by the target audience? (Poor Rate - Effective Rate)

Term	Median Score	
	Fall 1968	3.
	Winter 1968-69	3.5
	Spring 1968	4.

10. Does the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.) (Inappropriate Repetition - Appropriate Repetition)

Term	Median Score	
	Fall 1968	4.
	Winter 1968-69	2.5
	Spring 1968	3.0

Table 2. (continued)

11. Is the method of presentation (film-tape, manual, etc.) suitable to the subject matter? (Inappropriate - Appropriate)

Term	1		6		Median Score
	Fall	1968			
	Winter	1968-69			
	Spring	1968			
					5.0
					4.0
					5.0

12. Is the difficulty of the pictorial presentation appropriate considering the characteristics of the target audience? (e.g., age, education level, intelligence, etc.) (Very inappropriate - Very Appropriate)

Term	1		6		Median Score
	Fall	1968			
	Winter	1968-69			
	Spring	1968			
					5.0
					4.5
					4.0

13. Are the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of closeups, and other technical considerations.) (Confusing - Very Clear)

Term	1		6		Median Score
	Fall	1968			
	Winter	1968-69			
	Spring	1968			
					3.0
					5.5
					4.0

Table 2. (continued)

14. Is the verbal difficulty of the materials appropriate to the age, educational level, and previous experience of the target audience? (Inappropriate - Appropriate)

1

6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	4.5
	Spring 1968	4.5

15. Does the narrator(s) contribute to the effectiveness of this system? (i.e., tone of voice, manner of speech, speed of delivery, etc.) (Detracts - Contributes)

1

6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	5.0
	Spring 1968	5.0

16. Is the sound track clearly audible? (Inaudible - Audible)

1

6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	6.0
	Spring 1968	4.0

17. Is the information presented in the student manual and worksheets well integrated with that presented in the film-tape or motion pictures? (No Integration - Closely Integrated)

1

Median Score

Term	Median Score	
	Fall 1968	3.0
	Winter 1968-69	5.0
	Spring 1968	4.5

Table 2. (continued)

18. Below are seven statements numbered a. through g. Give your overall estimate of the instructional value of the materials by checking one (and only one) of the statements.

(Median Statement)	
Term	<div>Fall 1968</div> <div>Winter 1968-69</div> <div>Spring 1968</div>
	<p>The trainee can attain the desired behaviors in other ways, but all in all these materials will achieve them most effectively.</p> <p>These materials will result in satisfactory trainee achievement, but there are other procedures equally or more effective.</p> <p>The trainee can attain the desired behaviors in other ways, but all in all these materials will achieve them most effectively.</p>

19. Does teacher education really need materials such as these. List the cogent arguments for and against the use of these materials on the basis of your personal experience.

(Median Statements)	
Term	<div>Fall 1968</div> <div>Winter 1968-69</div> <div>Spring 1968</div>
	<p>No comment</p> <p>Yes- Limitation</p> <p>No comment</p> <p>(a) time required</p> <p>(b) method of presentation</p>

20. Suppose that you could purchase these materials in suitable format and quantity to use in your institution. How much would you pay to have them? (Not have much could you pay.)

(Median Statement)	
Term	<div>Fall 1968</div> <div>Winter 1968-69</div> <div>Spring 1968</div>
	<p>Up to \$ 400</p> <p>Up to \$ 200</p> <p>Up to \$ 600</p>

Table 2. (continued)

Circle the number which represents your best judgment of the degree to which the system satisfies each criterion.

21. Is the information technically accurate? (Contains Many Errors - Contains No Errors) 1 6

Term	Median Score	
	Fall 1968	4.0
	Winter 1968-69	4.5
	Spring 1968	4.5

22. What is the relative importance of the inaccuracies in the instructional system? (If there are no inaccuracies noted, they are logically of little or no importance.) (Crucial Importance - Little Importance) 1 6

Term	Median Score	
	Fall 1968	5.
	Winter 1968-69	4.0
	Spring 1968	5.

23. Is the content of the instructional system up-to-date? (Out-of-date - Up-to-date) 1 6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	4.5
	Spring 1968	5.0

24. Is it highly probable that the information or procedures presented in the instructional system will be confirmed by subsequent experience? (No Confirmation - Confirmation) 1 6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	4.5
	Spring 1968	5.0

Table 2 (continued)

25. Is it highly probable that the target audience will be able to use or apply the information or procedures presented by the instructional system? (Not Useful - Useful) 1 6

Term	Median Score	
	Fall 1968	6.
	Winter 1968-69	4.5
	Spring 1968	5.

26. Could the subject matter be treated more effectively through some other medium? (e.g., lecture, demonstration, textbook, television.) (Less Effective - More Effective) 1 6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	5.0
	Spring 1968	5.0

27. Could the subject matter be taught as effectively but more feasibly or economically by some other means? (Least Feasible - Most Feasible) 1 6

Term	Median Score	
	Fall 1968	5.0
	Winter 1968-69	5.0
	Spring 1968	4.0

28. Comments (See Appendix M.)

Objectives were clearly stated (#1)
Content related directly to the main objectives (#5)
Content was well-organized (#6)
Important ideas were clearly emphasized (#7)
Media was suitable (#11)
Narrator was satisfactory (#15)
Sound track was audible (#16)

Some questions received marginal scores, thus indicating possible revisions:

Too much material presented in the system (#8)
Difficulty of the pictorial presentation inappropriate (#12)
Verbal difficulty of materials inappropriate (#14)

Finally, four questions received scores that indicated revisions to the materials:

Rate of development of ideas too slow (#9)
Repetition excessive (#10)
Demonstrations, (in terms of camera angles, etc.) obscure (#13)
Integration of information in student manual and film-tape on motion pictures questionable (#17)

It should be noted that of the questions receiving scores, indicating revisions, only two were judged to be of primary importance when the evaluation questionnaire was designed: Number 10 (excessive repetition and Number 13 (clarity of filmed demonstrations).

Learners Evaluations

Table 3 summarizes the data from the Student Analysis Form from the ten field trial institutions. Well over 500 learners were in the sample. Questions 1, and 5 through 17 are of special relevance to the matter of design.

Learners reported that they felt that the design of the instructional system was adequate or marginal for all but one scale. Estimations of adequacy were recorded for the following factors:

Objectives were clearly stated (#1)
Content related directly to the main objectives (#5)
System presented a learnable amount of information (#8)
Verbal difficulty of materials appropriate (#14)
Narrator was satisfactory (#15)

Questions receiving marginal scores included:

Content presented in confused or disorganized pattern (#6)
Important ideas vague (#7)
Rate of development too slow (#9)
Excessive repetition (#10)
Method of presentation questionable (#11)
Difficulty of the pictorial presentation inappropriate (#12)
Sound track less than adequate (#16)
Integration of information in student manual and film-tape or motion pictures questionable (#17)

Table 3: Summary of Data From STUDENT ANALYSIS FORM*

	1										6	
	Were the objectives of the instructional system clear to you? (ambiguous - clear)										All Schools (mean)	
School	1	2	3	4	5	6	7	8	9	10		
Summer '68			**	4.0			5.0			4.5	4.5	
Fall '68	4.7	5.0		6.0	5.0	4.0	5-0		6.0	5.0	5.1	
Winter '68		5.0				5.0	5.0	5.0	5.0	5.0	5.0	
Spring '69	5.0	5.0					5.0	4.5	5.3	5.0	4.9	
Term												

	1										6	
	Did the instructional system attract and hold your interest? (dull - interesting)										All Schools (mean)	
School	1	2	3	4	5	6	7	8	9	10		
Summer '68				4.0			4.0			4.0	4.0	
Fall '68		4.0		4.0	5.0	3.0	4.0		4.0	3.0	3.9	
Winter '68		3.0				5.0	5.0	5.0	5.0	2.0	4.1	
Spring '68	4.0	4.0					3.5	3.5	2.0	4.3	3.5	
Term												

* Figures shown represent median scores

** No data was received from School 3

Table 3 (continued)

3) Did the instructional system build on your previous knowledge, skills or experience? (unrelated - related)

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			5.0			4.0	
	Fall '68		5.0		5.0	4.0	4.5	5.0		4.0	4.0	
	Winter '68		4.5				5.0	5.0	5.2	5.0	4.5	
	Spring '69	4.5	5.0					4.5	5.0	4.0	5.0	

4) Was the subject matter presented in this instructional system appropriate for your present level of training? (inappropriate - appropriate)

Term	School	1	2	3	4	5	6	7	8	9	10	All School (mean)
	Summer '68				5.0			5.0			5.0	
	Fall '68		5.0		6.0	4.5	4.0	5.0		6.0	3.5	
	Winter '68		5.0				5.0	5.0	6.0	5.0	5.0	
	Spring '69	6.0	4.0					5.0	4.5	4.0	5.0	

Table 3 (continued)

5) Did the content relate directly to the main objectives of the instructional system? (unrelated - related)

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			5.0			5.0	5.0
	Fall '68		5.0		6.0	5.0	4.0	5.0		5.0	5.0	5.0
	Winter '68		5.0					5.0	5.0	5.0	5.0	5.0
	Spring '69	6.0	5.0					5.0	5.0	5.0	5.0	5.0

6) Was the content presented in a well organized, systematic pattern? (disorganized - organized)

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				4.0			4.0			4.0	4.0
	Fall '68		5.0		6.0	5.0	3.0	4.5		4.0	5.0	4.6
	Winter '68		5.0				5.0	5.0	4.0	5.0	4.0	4.75
	Spring '69	4.5	5.0					5.0	4.5	4.0	5.0	4.75

Table 3 (continued)
7) Were important ideas or procedures clearly emphasized? (vague - clear)

Term	1 6									
	School	1	2	3	4	5	6	7	8	9 10
Summer '68					4.0			4.0		4.0
Fall '68			5.0		6.0	5.0	3.0	4.5		5.0
Winter '68			5.0				5.0	5.0	4.0	4.0
Summer '69		4.5	5.0					5.0	4.5	5.0
All Schools (mean)										
4.0										
4.6										
4.75										
4.75										

8) Did the instructional system attempt to present too much material to learned at one time?
(too many points - learnable amount of points)

Term	1 6									
	School	1	2	3	4	5	6	7	8	9 10
Summer '68					5.0			5.0		5.0
Fall '68			5.3		5.5	6.0	5.0	5.0		5.0
Winter '68			6.5				5.0	6.0	5.0	5.0
Spring '69		5.0	5.0					5.0	3.5	6.7
All Schools (mean)										
5.0										
5.4										
5.5										
4.9										

Table 3 (continued)

9) Were new facts, ideas, terminology, or procedures introduced at a rate which permitted you to learn them? (poor rate - effective rate)

1

6

School	1	2	3	4	5	6	7	8	9	10
Summer '68				5.0			5.0			4.5
Fall '68		5.0		5.0	5.0	4.0	5.0		5.0	4.0
Winter '68		5.0				6.0	6.0	5.0	6.0	5.0
Spring '69	5.5	5.0					5.0	3.5	5.0	5.0

All Schools (mean)
4.8
4.9
5.5
4.8

10) Did the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.) (excessive repetition - effective repetition)

1

6

School	1	2	3	4	5	6	7	8	9	10
Summer '68				4.0			4.0			4.0
Fall '68		4.0		5.0	4.0	3.0	5.0		4.0	2.5
Winter '68		4.0				5.0	5.0	5.0	5.0	3.0
Spring '69	5.5	3.0					5.0	5.0	2.0	4.0

All Schools (mean)
4.0
3.9
4.5
4.0

Table 3 (continued)

11) Was the method of presentation (film-tape, manual, etc.) suitable to the subject matter?
(inappropriate - appropriate)

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			4.0			4.0	4.3
	Fall '68		6.5		6.0	5.0	4.0	5.0		4.5	5.0	5.0
	Winter '68		5.0				5.0	5.0	5.0	4.0	4.0	4.7
	Spring '69	4.5	5.0					4.0	4.5	5.0	5.0	4.3

12) Was the difficulty of the pictorial presentation appropriate considering your age, educational level, intelligence, etc.? (inappropriate - appropriate)

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			5.0			5.0	5.0
	Fall '68		5.0		6.0	5.0	4.0	5.0		5.0	4.5	4.9
	Winter '68		4.3				5.0	5.0	5.0	5.0	4.0	4.7
	Spring '69	5.5	5.0					4.0	4.0	4.0	5.0	4.6

Table 3 (continued)

13) Were the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of close ups, and other technical considerations.)
(obscure - clear)

1
6

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				4.5			4.0				4.2
	Fall '68		4.5		5.5	4.0	2.0	3.0		4.0	5.0	3.9
	Winter '68		4.8				4.0	4.5	5.0	4.0	3.0	4.0
	Spring '69	5.0	3.0					4.3	5.5	4.0	3.0	3.6

14) Was the verbal difficulty of the materials appropriate considering your educational level, and previous experience? (inappropriate - appropriate)

1

6

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			5.0			5.0	5.0
	Fall '68		5.0		6.0	5.0	5.0	5.0		5.5	5.0	5.2
	Winter '68		5.0				5.0	5.0	5.0	6.0	5.0	5.1
	Spring '69	6.0	5.0					5.0	5.0	5.0	5.0	5.1

Table 3 (continued)

15) Did the narrator contribute to the effectiveness of this instructional system? (i.e., tone of voice, manner of speech, or speed of delivery, etc.) (detacted - contributed)

1

6

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)	
	Summer '68				5.0			5.0					5.0
	Fall '68		5.0		6.0	6.0	6.0	5.0		5.0	5.0		5.1
	Winter '68		5.0				5.0	5.0	5.0	5.0	5.0		5.0
	Spring '69	4.0	5.0					5.0	5.0	5.0	5.0		4.8

16) Was the sound track clearly audible? (inaudible - audible)

1

6

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				5.0			4.0			4.4	
	Fall '68		4.0		6.0	5.0	3.0	2.5		5.0	6.0	
	Winter '68		4.0				4.0	4.0	5.0	5.0	4.0	
	Spring '69	6.0	5.0					4.0	4.0	4.5	3.0	

Table 3 (continued)
17) Was the information presented in the student manual and student work sheets well integrated with that presented in the film-tape or motion pictures? (no integration - integration)

1

6

Term	School	1	2	3	4	5	6	7	8	9	10	All Schools (mean)
	Summer '68				4.0			5.0			5.0	4.3
	Fall '68		5.0		6.0	5.0	4.0	5.0		5.0	5.0	5.0
	Winter '68		5.0				5.0	5.0	5.0	5.0	5.0	5.0
	Spring '69	5.0	5.0					5.0	4.0	5.0	5.0	4.8

18) Other Comments: (See Appendix N)

Table 4. Summary of Findings on the Factor of Design

<u>Item</u>	<u>Instructors</u>	<u>Learners</u>
*1. Objective clarity	adequate	adequate
5. Relation of content with objectives	adequate	adequate
*6. Content match with level of training	adequate	marginal
*7. Important ideas emphasized	adequate	marginal
8. Amount of content	marginal	adequate
9. Rate of development	revisions indicated	marginal
*10. Repetition	revisions indicated	marginal
11. Method of presentation	adequate	marginal
12. Pictorial presentation match with learner level	marginal	marginal
*13. Technical quality of media	revisions indicated	revisions indicated
14. Verbal difficulty match with learner level	marginal	adequate
15. Narrator	adequate	adequate
*16. Sound track	adequate	marginal
17. Integration of manual with media	revisions indicated	marginal

*Indicates matter of primary importance--i.e., if system is rated low on this item, it should be radically changed.

As noted above, only one question was responded to with a "not acceptable

Demonstrations (in terms of camera angles, etc.) obscure (#13)

Table 4 summarizes the findings of the field trial as it relates to the evaluative factors of design.

Credibility

Is the content of the instructional system credible and relevant?

Instructor Evaluations

By referring again to Table 2, and in particular the scores on Questions 3, 4, 21 and 22, some indication of credibility of the instructional system may be obtained. Instructors indicated that the following aspects of the system were adequate:

System appropriate for target audience (#4)
Few inaccuracies were noted (#22)

On the other hand, instructors voted as marginal these aspects:

Relation to previous knowledge questionable (#2)
Information contains same errors (#21)

One question represented a primary concern (Number 4), and that question received a high rating.

Learner Evaluations

The questions on the Student Analysis Form that relate to credibility are Numbers 3 and 4 (refer to Table 3). Data revealed that learners felt similarly to these questions as did instructors. These findings are summarized in Table 5.

Table 5. Summary of Findings on The Factor of Credibility

<u>Item</u>	<u>Instructors</u>	<u>Students</u>
3. Relation to previous knowledge	marginal	marginal
*4. Appropriateness for target audience	adequate	adequate
21. Technical accuracy of information	marginal	-----
22. Importance of inaccuracies	adequate	-----

* Indicates item for primary importance

Timeliness

Is the instructional system useful in the educational context as it is now found?

The questions on the Instructional System Analysis (see Table 2) that tapped the factor of timeliness are Numbers 23, 24, and 25. No questions were asked of learners that relate to timeliness.

Instructors scored each question high. The results are summarized in Table 6.

Table 6. Summary of Findings on The Factor of Timeliness

<u>Item</u>	<u>Instructor Rating</u>
23. Content up-to-date	adequate
24. Probability of subsequent confirmation	adequate
25. Probability of use or application	adequate

Affectivity

Does the instructional system create positive affect towards its use?

Instructor Evaluations

Five measures from the Instructional System Analysis (see Table 2) provide clues to the factor of affectivity. The first is Question 2: Will the instructional system attract and hold the interest of the target audience? Instructors rated the system on three consecutive terms: 4, 3, and 4. Thus, marginal adequacy is indicated by this measure.

Another measure (Question 18) involved instructors selecting statement of their estimate of the overall values of the materials. On two of the terms, Statement e checked was:

"The trainee can attain the desired behavior in other ways, but all in all these materials will achieve them most effectively."

Data from the winter term revealed that instructors preferred Statement d:

"These materials will result in satisfactory trainee achievement, but there are other procedures equally or more effective."

Table 7. Summary of Data From
STUDENT ATTITUDE QUESTIONNAIRE

Sample Statements Representing Selected Points on an Eleven-Point Scale

11. I recommend that as many students as possible should avoid taking Classroom Simulation.
9. Classroom Simulation does not fill a gap in my previous knowledge.
7. Classroom Simulation is too hard for me.
5. Classroom Simulation does not duplicate material I have had before.
3. Classroom Simulation helps develop confidence.
1. Classroom Simulation is a great inspiration to me.

School	1	2	3*	4	5*	6	7	8	9	10	All Schools (Mean)
Term Spring or Summer '68	6.0	6.0		4.0			4.0	3.5		5.0	4.75
Fall '68		4.0		3.5		5.0	4.0		3.5		4.0
Winter '68-'69		4.13				3.75	4.0	4.0	3.75	5.0	4.10
Spring '69	3.75								4.0	3.9	3.83

* No data available from these schools

The third question asked instructors to tell how much they would pay to have the materials for use in their institution. The rationale for this question was that an individual's attitude toward a product is more or less related to his (institutions) pocketbook. The dollar amounts recorded for the three terms were:

up to \$400
up to \$200
up to \$600

The last two questions involved the instructors attitudes toward the comparative effectiveness and feasibility of the system (Questions 26 and 27). Instructors scored both questions high, indicating satisfaction with the system.

Learner Evaluations

Question 2 on the Student Analysis Form (see Table 3) provided a clue to the learners affect toward the system. In answer to - Did the instructional system attract and hold your attention? - learners gave only marginal or sub-marginal ratings.

Table 7 presents a summary of the data from the Student Attitude Questionnaire. Attitudes generally involved scores of 4. Samples of Statements with ratings of 4 include:

Classroom Simulation does not waste my time.
Classroom Simulation has a reputation of being valuable.

A summary of the findings in regard to affectivity is given in Table 8.

Table 8. Summary of Findings on the Factor of Affectivity

<u>Item</u>	<u>Instructors</u>	<u>Students</u>
*2. Ability to attract and hold interest	marginal	marginal to sub-marginal
18. Overall value	satisfactory, but not indispensable	-----
20. Purchase price	about \$400	-----
26. Comparative effectiveness	adequate	-----
27. Comparative feasibility	adequate	-----
Student Attitude Questionnaire	-----	Generally positive

* Indicates item of primary importance

Manageability

Detailed remarks concerning the manageability of the instructional system are provided in the Implementation Analyses (see Appendix O). Several questions with specific reference to manageability were identified and the remarks corresponding to these questions have been provided in Table 9. For the most part, it may be seen that the instructional system is quite usable in its present format. Physical space seemed to be of little concern, mechanical characteristics of the machines being used for the small group and individualized instruction seemed to offer the greatest problems. A reversing feature on these machines was thought to be most desirable if not necessary.

From the remarks of the field trial representatives, the time that students took to complete Phase I was approximately four to five hours. Phase II training too approximately six hours.

Strength

Do the instructional materials have the power to change the students' behavior on a simulation test compared in a pre- and post-test situation?

Two field test sites provided data that allowed the comparison of pre- and post-test scores on Day 3 of Phase II. The means for the data are reported in Table 10. For both institutions the differences between pre- and post-tests were significant at the .01 level of significance. Table 11 summarizes the results of the t tests. It may be seen that in all cases, learners improved in their performance after instruction.

Reliability

Does the instructional system consistently change behavior with given groups of learners?

An indication of reliability is given in the comparison of the performance of learners at each institution on criterion items in Phase I and on the self-evaluation test (Day 3) of Phase II. These data are summarized in percentile distributions in Figures 2 through 6. When the consistency within a given institution is examined, the data reveal wide variations. In fact, on the Day 3 desist strategies measure, not one institution exhibited really consistent results. And no institution came close to achieving the objective of "90% of the students will reach 80% proficiency" on that particular measure.

Table 9. Summary of Remarks by Field Trial Representatives
on the Manageability of the System

I. Personnel

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?
 - a. Yes. Some faculty members rejected the instructional system without knowledge or experience. The only limitation we encountered was the individual's willingness to experiment with new and innovative materials.
 - b. No.
 - c. Worked very well in a self-instructional mode. Incidents used for discussion material in a large group setting (40 students) after everyone had completed the program.
 - d. Technical operation of slide/tape presentation of Phase I would appear to need thorough and complete familiarization on the part of the operator.
 - e. Those involved must accept the principles involved in simulation in general and in this package in particular. They also must be willing to devote time to learning the materials prior to using them.
 - f. Selecting: none; training: none; assigning: primarily interest
6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number that supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).
 - a. Three schools involved in the project. Cartons of carousel trays, booklets, and audio-visual equipment transported to each school by the field-trial representatives. Materials were left in each building until the students completed the two phases. Then they were moved to the next school.
 - b. 20 x 30 room equipped with two Audiscans, and three Technicolor 1000 projectors. Booklets were assigned in a class period, operation of Audiscan and Technicolor 1000 was demonstrated and then attempted by each. Film materials made available "off-the-shelf".

Table 9 (continued)

Schedule set up allowing use of equipment were up to a two-hour block at a time. Technician checked equipment each week and on call (only two).

- c. Audiscan and tapes placed in a separate room available to 39 students using them during the Spring session, and the 14 students using them during the Summer session from 8 a.m. to 10 p.m. Monday through Saturday. Audio-visual maintenance man was on call to assist students with any malfunctions of the machine. Each of the students in groups of four or five at a time were given instructions on the use and operation of the Audiscan program. Scheduling for use of the equipment was done by the students with some assistance from the instructor.
- d. Audiscan in separate room available to students from 8 a.m. to 10 p.m. daily.
- e. Materials were only made accessible during the workshops in which group instruction was employed. Graduate students managed the physical aspects of the program.
- f. Students could schedule themselves into the Dial Access Room of the main library during regular library hours. After brief orientation by instructor, only one person, a library aide assigned to the Dial Access facilities, was needed for the operation of the equipment.
- g. Students, in groups of four to six, scheduled themselves into a conference room in the library which housed the tape recorder and projector. One graduate assistant who aided in scheduling the conference room and acted as a trouble-shooter. 10 hours per week in Phase I. Regular library personnel were available to assist students in case of equipment problems. This was extremely minimal.
- h. Scheduling: Materials were made available on 8 a.m. - 11 p.m. basis six days a week and 9 a.m. - 7 p.m. on one day a week basis through the library. Personnel: Teaching Research and our own staff and work-study aides manned and serviced the materials from a study center area.
- i. Work-study program students were assigned to an office which was a source of materials. Aides were responsible for the checking out of materials -- Audiscan and cartridges, Technicolor 1000 and film -- in and out during the day. Equipment and materials were checked out overnight and returned the next day.
- j. Used in a weekly two-hour seminar with elementary student teachers while they were in the public schools in their second 6-week assignment. One teacher used materials in regular classroom.

IV. Physical Space

Table 9 (continued)

1. In this section, we would like a brief descriptor -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and improvable characteristics of your particular arrangement.
 - a. Ventilation was a problem as the dark blinds cut out air intake. (Figure provided showing location of projectors, windows, and seats).
 - b. Only space available was a conference room adjacent to the materials office. Several Audiscans were used simultaneously with earphones.
 - c. Small 6 x 10 rooms and 4 x 5 rooms as well as a large area with a conference table that was used. Recommend the availability of many varied sized rooms.
 - d. Phase I: Conference room housed the tape recorder and slide projector. Room was approximately 12' x 12' in size, large enough for six students to work comfortably at one time. This room was restricted to this use. Highly acceptable arrangement. Phase II: Utilize a large lecture room with enough flexible furniture for 120 students. Students were grouped in groups of fifteen per group. Projector positioned so that all 85 students could view the film and then participate in the small group discussion without moving about. Arrangement satisfactory.
 - e. No special physical facilities other than the audio-visual receivers in the Dial Access facilities.
 - f. Room was carpeted and had comfortable chairs, etc., which provided physical atmosphere conducive to learning. Students had coffee, soft drinks, etc., and were permitted to smoke. Small group and large group discussions were held. With the larger group we could not use tables. It was found that the students did not discuss as much and were not too pleased with the physical arrangement. (Sketch provided showing clusters of students around six tables.)
 - g. Audiscan machine placed in an 8 x 12 room at one end of the 6' long table. Five chairs placed in horseshoe fashion at opposite end of table. Phase II employed the use of 16mm motion picture projector placed at rear of dimensional classroom. It was discovered that it was much easier to operate Phase II materials in a room where the light switch was adjacent to the motion picture projector. Same was true for the use of Phase I materials where the slide-tape presentation was employed. It also proved to be quite useful to employ a 16mm projector with a reversing mechanism.

Table 9 (continued)

- h. Students had free access to room, equipment and cartridges. Only two equipment failures were discovered or reported. Only one cartridge was not set back to beginning after use. Equipment was available on check-out to take home on week-ends. Used two of five weekends. (Sketch showing laboratory arrangement provided.)
- 2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above. Underline within.
 - a. Light control or projection quality and yet a reasonable amount for students to be able to write in their booklets. Technicolor 1000's could have been used with rear projection screens rather than wall mounted screens to allow for more pleasant room lighting when being used.

V. Equipment

- 2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to affect improvements?
 - a. None. Method by which problem was presented in the first part of Phase II necessitated by using a group mode (B) to orient the class better. The class decided this mode should be continued thereafter. Group mode used 16mm film.
 - b. Only problems of machine fatigue; tape and slide synchronization problem. Might buy better machines. Interrupted movement of slides in Phase I bothered some students. In addition, on several occasions slides and tapes become unsynchronized. Was necessary to start each section at the beginning when this problem occurred. None, except with technical difficulties with the automated transmitting equipment (Dial Access).
 - c. Employment of daylight screens for projection or some other arrangement that eliminated the necessity for a constant switching of lights would be desirable.
 - d. Advance mechanism on one Audiscan was faulty but corrected by placing a paper match stick on top of "trip relay" thus shortening the string. Start switches on Technicolor 1000's needed to be tripped several times to start a given sequence after stopping. Not remedied.
 - e. Slides jammed consistently -- corners had to be glued.
 - f. Inability of the Technicolor 1000 to reverse to review a scene would prompt me not to recommend it for a tutorial use.

Figure 2. Percentile Distribution Showing the Variance of Scores for Selected Institutions for Phase I: Question 1.

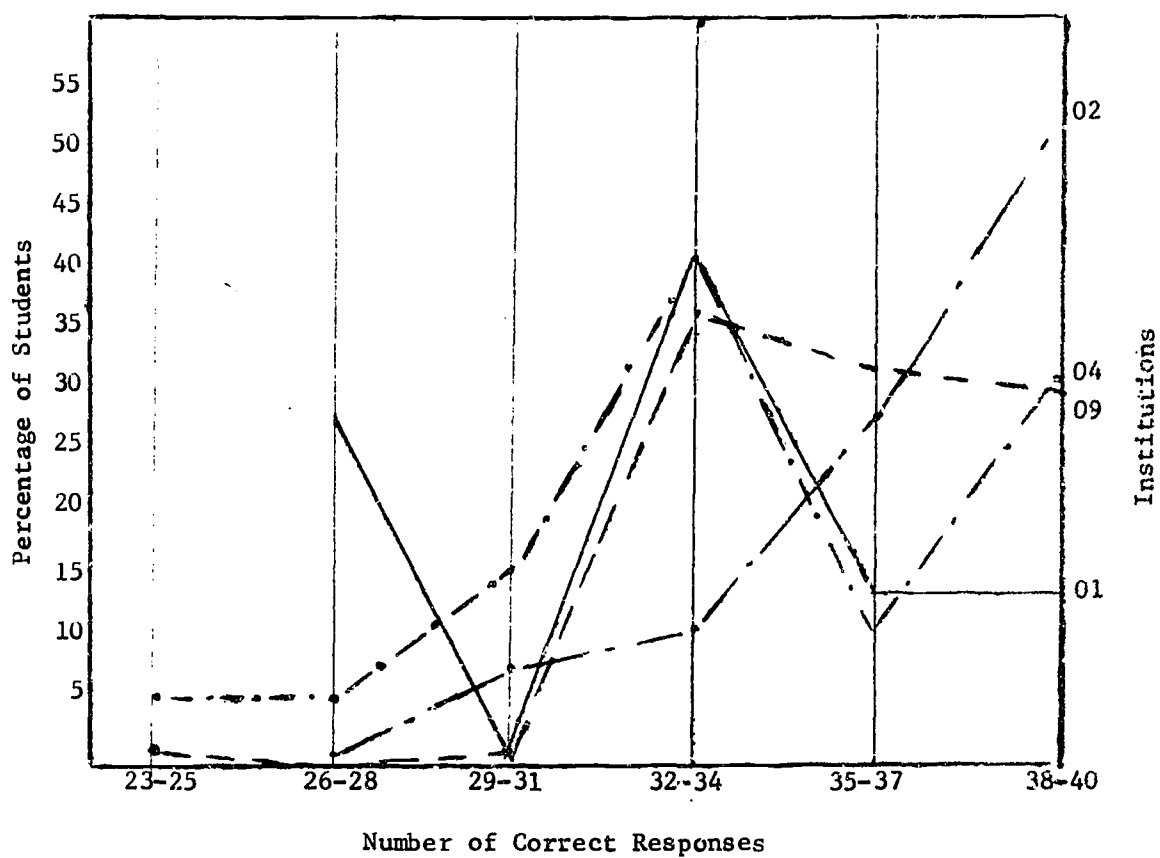


Figure 3. Percentile Distribution Showing the Variance of Scores for Selected Institutions for Phase I: Question 2.

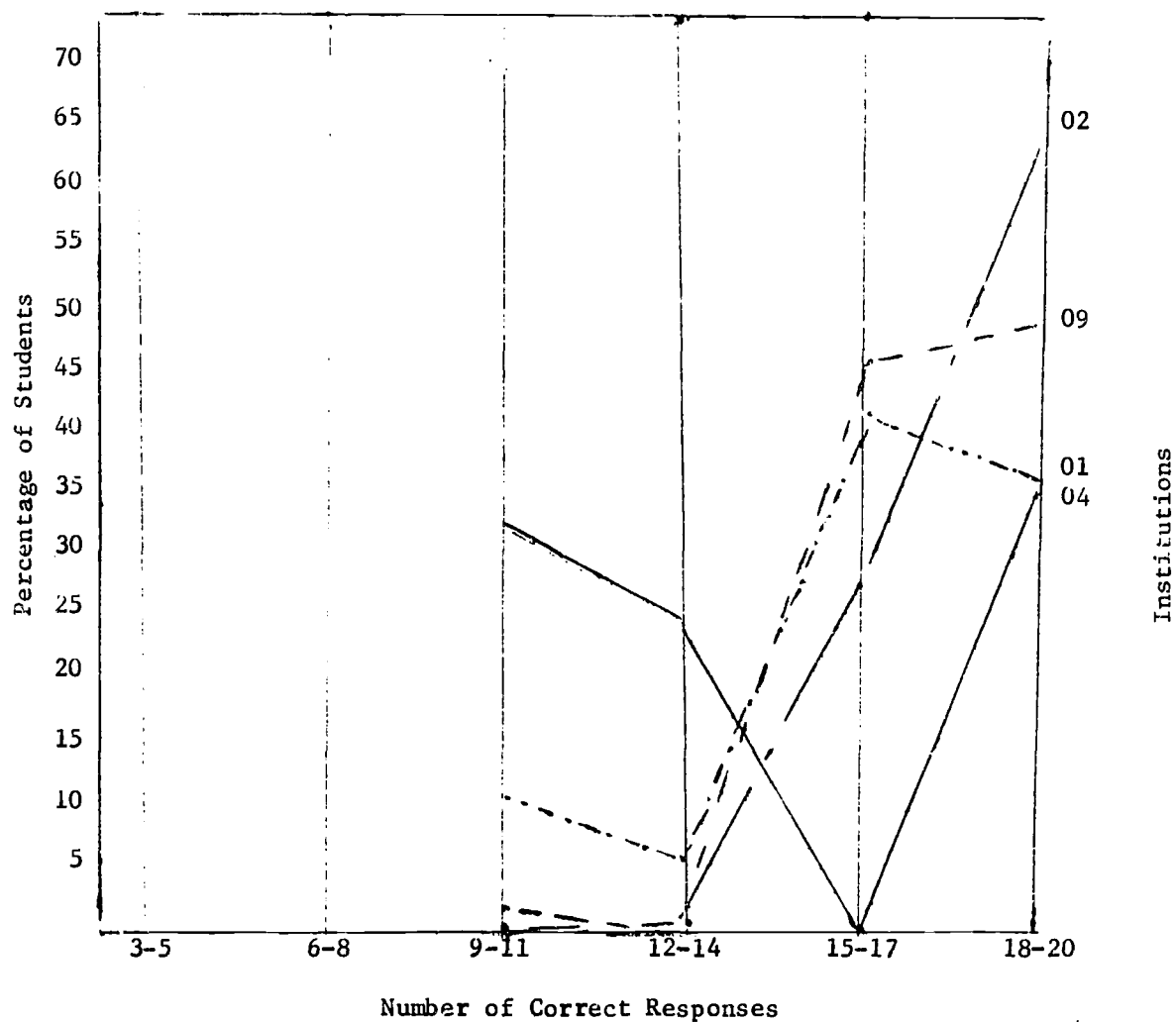


Figure 4. Percentile Distribution Showing the Variance of Scores for Selected Institutions for Phase I: Question 3.

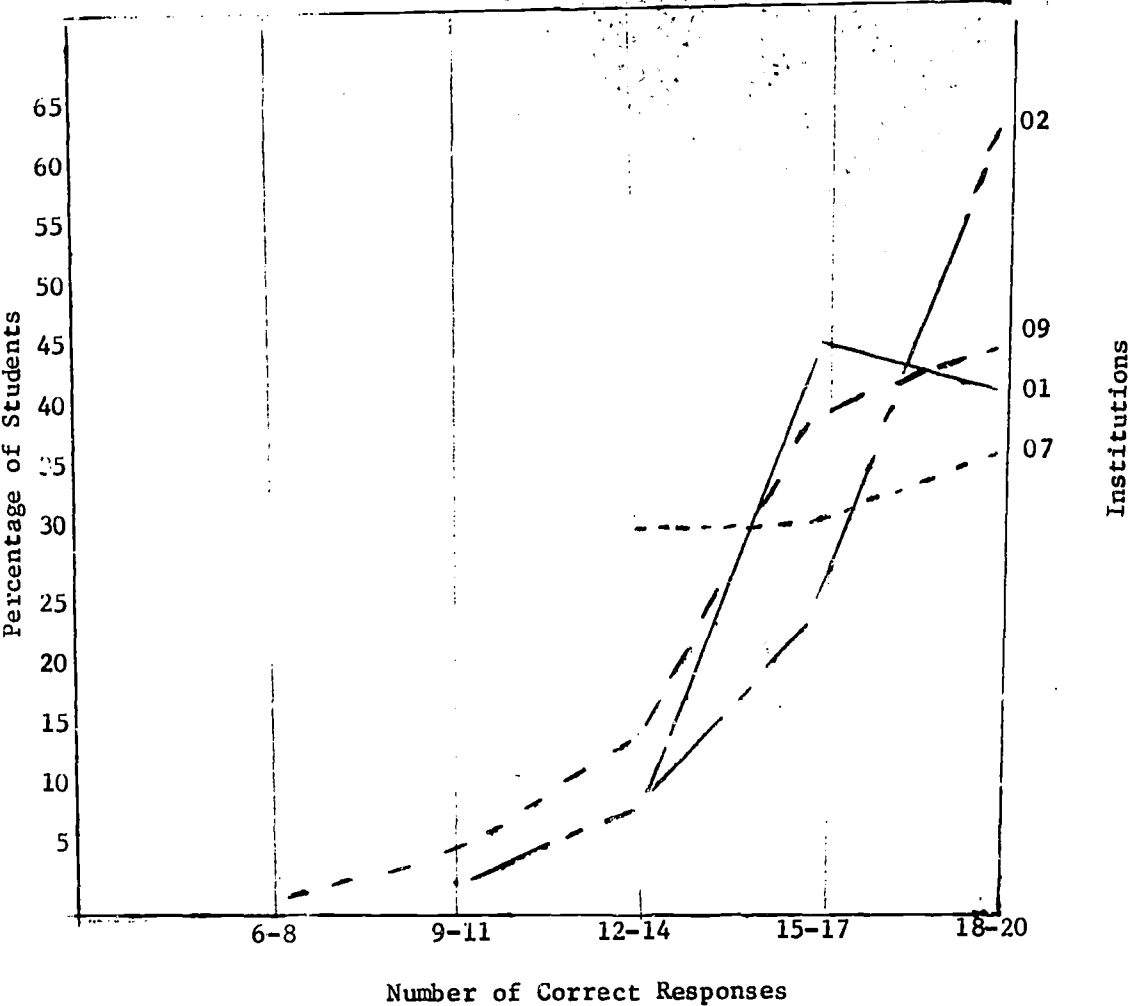


Figure 5. Percentile Distribution Showing the Variance of Scores for Selected Institutions for Phase II: Day 3 - Norms

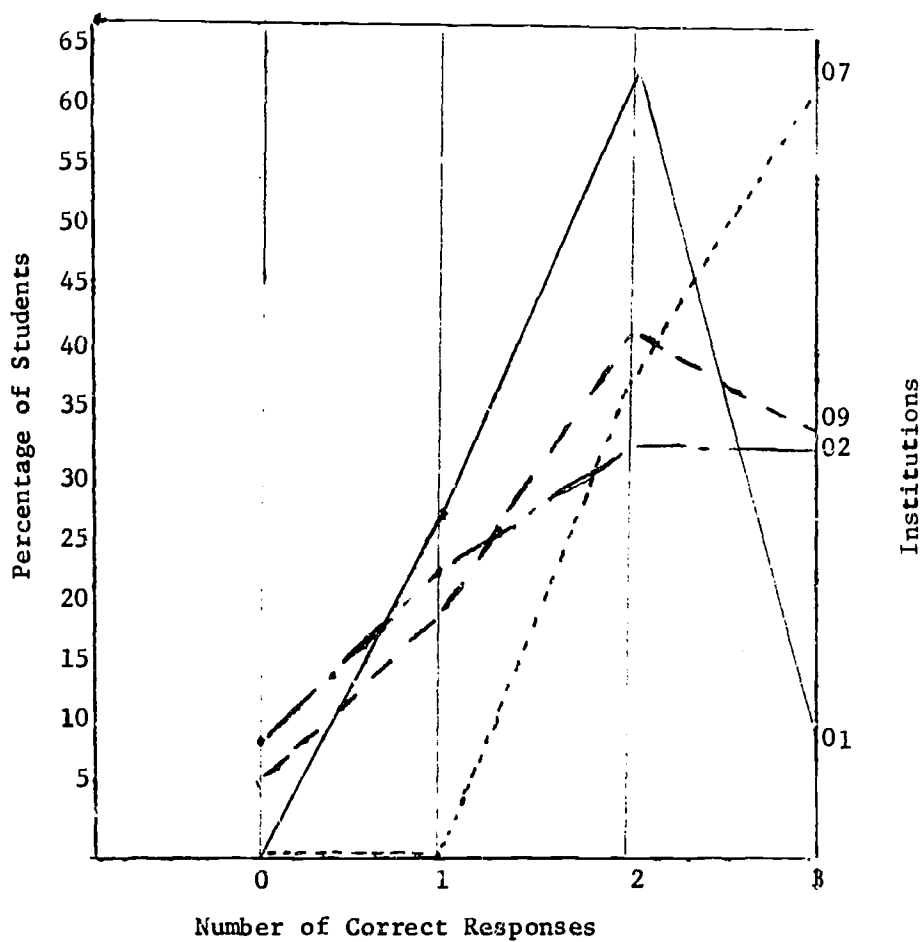


Figure 6. Percentile Distribution Showing the Variance of Scores for Selected Institutions for Phase II: Day 3 - Desist Strategies.

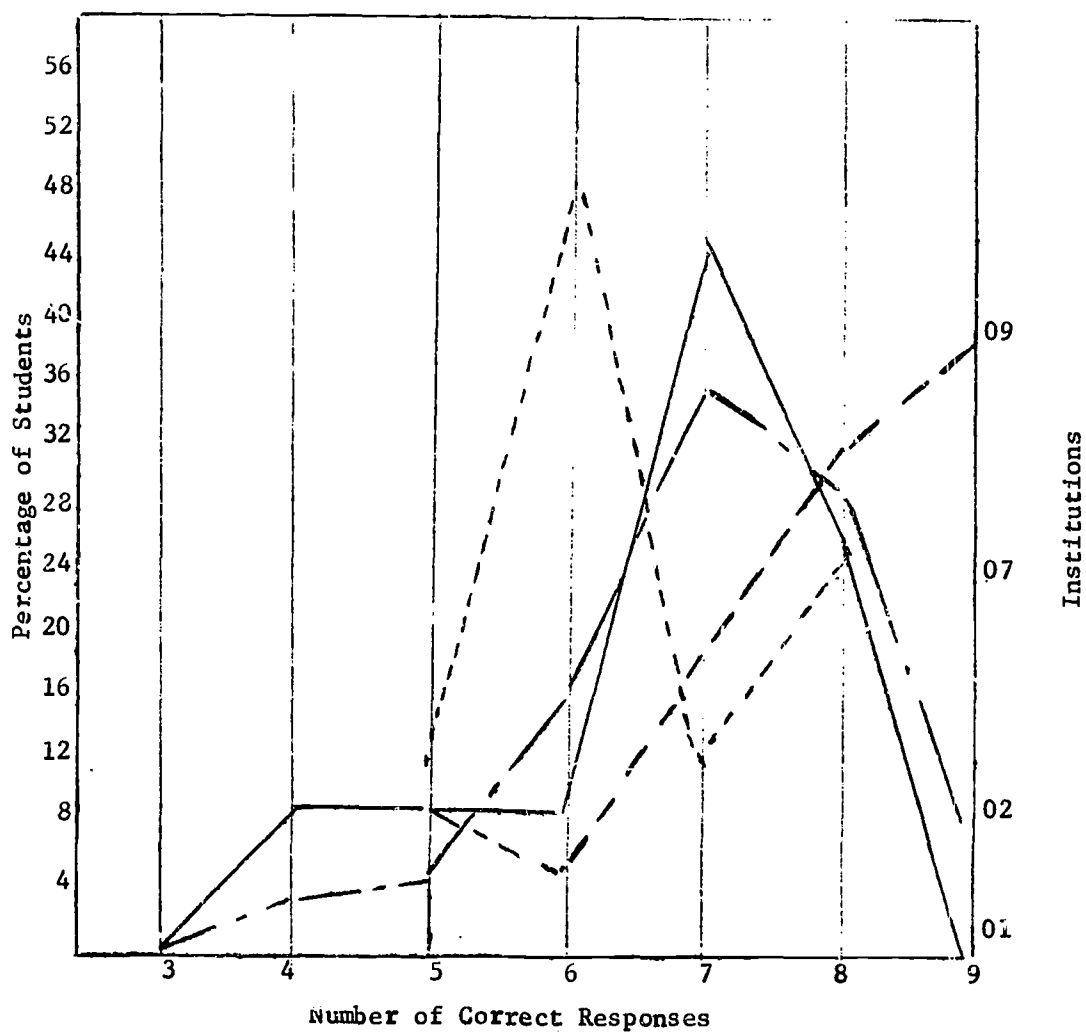


Table 10. Means for the Day 3 Pretest and Posttest,
Phase II Training

<u>School</u>	<u>Setting Norms</u>		<u>Desist Strategies</u>	
	<u>Pretest</u>	<u>Posttest</u>	<u>Pretest</u>	<u>Posttest</u>
2	1.00	2.73	5.82	7.00
9	.94	2.02	5.32	7.98

Table 11. Summary of Correlated t Test
Results for Day 3, Phase II

<u>School</u>	<u>Setting Norms</u>		<u>Desist Strategies</u>	
	<u>t</u>	<u>df</u>	<u>t</u>	<u>df</u>
2	7.19	103	12.25	103
9	7.29	19	5.22	19

Robustness

Does the instructional system perform well in a wide range of applications without failing?

Elementary vs Secondary Students

One field trial site used the instructional system with both elementary and secondary student trainees. Data were provided from the Student Attitude Questionnaire, Phase I manuals, and Phase II manuals. Means and standard deviations for these data are summarized in Table 12. A summary of t test results are presented in Table 13. It is obvious that in every case, the differences in performance between the elementary and secondary students are not statistically significant.

Teacher Education Programs of Various Sizes

Several field trial sites returned students manuals that permitted an analysis of criterion test performance in Phase I (Part 5) and Phase II (Day 3). Data from four schools were presented in Figures 2 through 6 discussed above. For the most part, it is obvious that the instructional system did not consistently change behavior between the various institutions. In fact, the range of scores is markedly broad, no matter what the measure.

Table 12. Means and Variances for Elementary and Secondary Students for Selected Evaluation Measures

		<u>Student Attitude Questionnaire</u>	<u>Question 1</u>	Phase I (Part 5)	
				<u>Question 2</u>	<u>Question 3</u>
Elementary	\bar{x}	4.76	35.83	19.57	19.23
	S.D.	1.96	3.15	11.81	13.39
Secondary	\bar{x}	4.82	34.74	16.89	15.79
	S.D.	1.71	3.38	2.31	2.99

		Phase II Posttest	
		<u>Setting Norms</u>	<u>Desist Strategies</u>
Elementary	\bar{x}	2.17	8.00
	S.D.	1.15	1.76
Secondary	\bar{x}	2.00	7.74
	S.D.	.88	.81

Table 13. Summary of t - test Results for Elementary and Secondary Students for Selected Evaluation Measures

<u>Measure</u>	<u>t</u>	<u>df</u>
Student Attitude Questionnaire	.11	47
Phase I, Part 5, Question 1	.57	47
Phase I, Part 5, Question 2	.71	47
Phase I, Part 5, Question 3	1.14	47
Phase II, Day 3, Norms	1.20	47
Phase II, Day 3, Desist Strategies	1.36	47

In terms of a statistical analysis of the data from the field trial sites, by means of a one-way analysis of variances, with the factor being schools, these seemingly discrepant results hold for the most part. Table 14 and 15 present the means for each school that provided data on each measure, and the summary of the F tests, respectively. It may be seen that on three of the five measures, the performance at the schools varied significantly: on Questions 1 and 2 of Part 5, Phase I and on the Desist Strategies Measure, Day 3, Phase II.

Table 14. Means for Students' Scores From Various Field Sites.
The Dependent Variables are Phase I (Part 5) and
Phase II (Day 3) Performance.

<u>School</u>	Phase I (Part 5)			Phase II (Day 3)	
	<u>Qstn.</u> <u>1</u>	<u>Qstn.</u> <u>2</u>	<u>Qstn.</u> <u>3</u>	<u>Setting</u> <u>Norms</u>	<u>Desist</u> <u>Strategies</u>
01	33.13	14.13	17.14	1.82	6.73
02	36.87	17.91	17.68	1.90	7.10
04	35.62	16.77	16.85	----	----
06	36.60	18.00	18.00	----	----
07	---	----	---	2.63	6.57
08	34.00	16.67	15.00	----	----
09	35.51	17.41	16.33	2.02	7.98

Table 15. Summary of Analyses of Variance for
Students' Scores. The Dependent
Variables are Phase I (Part 5)
and Phase II (Day 3) Performance.

Phase I, Part 5, Question 1

<u>Source</u>	<u>df</u>	<u>ms</u>	<u>F</u>
Schools	5	32.84	2.69*
Error	139	12.21	

Phase I, Part 5, Question 2

<u>Source</u>	<u>df</u>	<u>ms</u>	<u>F</u>
Schools	5	22.30	3.41*
Error	140	6.54	

Table 15 (continued)
Phase I, Part 5, Question 3

<u>Source</u>	<u>df</u>	<u>ms</u>	<u>F</u>
Schools	5	13.19	1.72
Error	138	7.65	

Phase II, Day 3, Norms

<u>Source</u>	<u>df</u>	<u>ms</u>	<u>F</u>
Schools	3	1.39	1.69
Error	151	.819	

Phase II, Day 3, Desist Strategies

<u>Source</u>	<u>df</u>	<u>ms</u>	<u>F</u>
Schools	3	11.54	8.83**
Error	147	1.31	

* p < .05

** p < .01

College Students vs Experienced Teachers

One field trial site used the instructional system with a group of teachers, primarily experienced, working toward their certification during a summer workshop. Data from the Student Analysis Form and the Student Attitude Questionnaire were provided, and are reported in Table 16. For three evaluative factors, a summary of the findings comparing the experienced teachers with the regular field trial group is given in Table 17.

The results are largely predictable, or at least in line with best estimates of how experienced teachers might accept the system. For example, the teachers indicated that:

- Important ideas were largely emphasized (#7)
- Rate of development was satisfactory (#9)
- Method of presentation was suitable (#11)
- Verbal difficulty of materials was very appropriate (#14)
- Instructional system did build on previous knowledge (#3)

Could it be that the teachers increased sophistication with classroom management served to heighten the impact and meaningfulness of the materials? In every case, the regular field trial group rated the items lower! Unfortunately, the small sample (n=9) and lack of corroborative evidence limits speculation at this point.

Table 16. Summary of Data From STUDENT ANALYSIS FORM and STUDENT ATTITUDE QUESTIONNAIRE From a Sample of Teachers, Primarily Experienced, Working Toward Certification During a Summer Workshop.

	Median Scores
1) Were the objectives of the instructional system clear to you? (ambiguous - clear) 1 6	4.0
2) Did the instructional system attract and hold your interest? (dull - interesting) 1 6	4.0
3) Did the instructional system build on your previous knowledge, skills or experience? (unrelated - related) 1 6	5.0
4) Was the subject matter presented in this instructional system appropriate for your present level of training? (inappropriate - appropriate) 1 6	5.0
5) Did the content relate directly to the main objectives of the instructional system? (unrelated - related) 1 6	5.0
6) Was the content presented in a well organized, systematic pattern? (disorganized - organized) 1 6	4.0
7) Were the important ideas or procedures clearly emphasized? (vague - clear) 1 6	5.0
8) Did the instructional system attempt to present too much material to be learned at one time? (too many points - learnable amount of points) 1 6	5.0
9) Were new facts, ideas, terminology, or procedures introduced at a <u>rate</u> which permitted you to learn them? (poor rate - effective rate) 1 6	5.0
10) Did the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.) (excessive repetition - effective repetition) 6 1	4.0

Table 16 (continued)

		Median Scores
11) Was the method of presentation (film-tape, manual, etc.) suitable to the subject matter? (inappropriate - appropriate)	1 6	5.0
12) Was the difficulty of the pictorial presentation appropriate considering your age, educational level, intelligences, etc.? (inappropriate - appropriate)	1 6	4.0
13) Were the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, considerations.) (obscure - clear)		4.0
14) Was the verbal difficulty of the materials appropriate considering your educational level, and previous experience? (inappropriate - appropriate)	1 6	6.0
15) Did the narrator contribute to the effectiveness of this instructional system? (i.e., tone of voice, manner of speech, or speed of delivery, etc.) (detracted - contributed)	1 6	5.0
16) Was the sound track clearly audible? (inaudible - audible)	1 6	4.0
17) Was the information presented in the student manual and student work sheets well integrated with that presented in the film-tape or motion pictures? (no integration - integration)	1 6	4.0

18) Other Comments:

More discussion would have been beneficial
 Repetition used excessively (3 responses)
 Verbal difficulty inappropriate, too easy
 Part 5 of Phase I too long and boring - pick
 the 10 best situations
 Pictorial presentation inappropriate: too difficult
 Have fewer episodes with more time for discussion of
 divergent solutions
 Repetition in Phase II boring, but "practice makes
 perfect" and builds confidence
 Objectives were clear but lacked relevance to
 classroom discipline

Student Attitude Questionnaire

Sample Statements Representing Selected Points on an Eleven Point Scale.

11. I recommend that as many students as possible should avoid taking Classroom Simulation.
9. Classroom Simulation does not fill a gap in my previous knowledge.
7. Classroom Simulation is too hard for me.
5. Classroom Simulation does not duplicate material I have had before.
3. Classroom Simulation helps develop confidence.
1. Classroom Simulation is a great inspiration to me.

Median Attitude of Experienced Teachers

3.5

Table 17. Comparison of Findings of the Experienced Teachers Group with the Regular Field Trial Group.

<u>Regular Field Trial</u>				<u>Experienced Teachers</u>
<u>Factor and Item</u>	<u>Instructors</u>	<u>Learners</u>		
Design				
*1. Objective clarity	adequate	adequate		marginal
5. Relation of content with objectives	adequate	adequate		adequate
*6. Content match with level of training	adequate	marginal		marginal
*7. Important ideas emphasized	adequate	marginal		adequate
8. Amount of content	marginal	adequate		adequate
9. Rate of development	revisions indicated	marginal		adequate
*10. Repetition	revisions indicated	marginal		marginal
11. Method of presentation	adequate	marginal		adequate
12. Pictorial presentation match with learner level	marginal	marginal		marginal
*13. Technical quality of media	revisions indicated	revisions indicated		marginal
14. Verbal difficulty match with learner level	marginal	adequate		clearly adequate
15. narrator	adequate	adequate		adequate
*16. Sound track	adequate	marginal		adequate
17. Integration of manual with media	revisions	marginal		marginal
Credibility				
3. Relation to previous knowledge	marginal	marginal		adequate
*4. Appropriateness for target audience	adequate	adequate		adequate
Affectivity				
*2. Ability to attract and hold interest	marginal	marginal to sub-marginal		marginal
Student Attitude Questionnaire	--	3.9 - 4.8		3.5

Recommended Use vs Innovative Use (Dial Access with Video-tapes)

During the Spring of 1970, just before this report was completed, data were returned from Shippensburg State College where the Classroom Management Materials were used on their dial-access system. The only measures that were returned were the Student Analysis Forms with the Implementation Analysis. Table 18 presents these findings. For selected evaluative factors, a summary of the findings comparing the dial-access group with the regular field trial group, is given in Table 19.

From the Implementation Analysis, (See Appendix N), it is clear that there were many technical problems with the dial-access system. Indeed, these problems are reflected in the learners' comments (see Table 18). With this in mind, it is interesting to note that the dial-access group still rated some items high. For example, they indicated that:

Content did relate directly to the main objectives (#5)
Difficulty of the pictorial presentation was appropriate (#12)
Verbal difficulty of materials was appropriate (#14)

On the other hand most items that were rated low, with revisions indicated, may be linked with the technical problems with the dial-access system, (possible exceptions are the first and fifth items listed):

Objectives not clearly stated (#7)
Content not well organized; confused (#6)
Important ideas vague (#7)
Rate of development poor (#9)
Excessive repetition (#10)
Sound Track inaudible (#16)

It is also interesting to note that of the three factors compared, the only one suffering from the dial-access system inadequacies was design. Credibility and affectivity compared similarly with the regular field trial findings.

Other Considerations

Does the system change behavior of student teachers in the classroom?

Forgan (1969) in his doctoral study collected data on twenty female student teachers using several instruments:

- 1) A revised OSCAR instrument (cf., Medley and Mitzel, 1958);
- 2) A Perceived Teaching Difficulties Report;
- 3) A Classroom Supervisor's Report; and
- 4) The Student Attitude Questionnaire described earlier in this report.

Table 18. Summary of Data From STUDENT ANALYSIS FORM From a Group of Students Using a Dial-Access System

	Median Scores
1) Were the objectives of the instructional system clear to you? (ambiguous - clear) 1 6	3.5
2) Did the instructional system attract and hold your interest? (dull - interesting) 1 6	4.0
3) Did the instructional system build on your previous knowledge, skills or experience? (unrelated - related) 1 6	4.0
4) Was the subject matter presented in this instructional system appropriate for your present level of training? (inappropriate - appropriate) 1 6	5.0
5) Did the content relate directly to the main objectives of the instructional system? (unrelated - related) 1 6	5.0
6) Was the content presented in a well organized, systematic pattern? (disorganized - organized) 1 6	3.0
7) Were the important ideas or procedures clearly emphasized? (vague - clear) 1 6	3.0
8) Did the instructional system attempt to present too much material to be learned at one time? (too many points - learnable amount of points) 1 6	4.0
9) Were new facts, ideas, terminology, or procedures introduced at a <u>rate</u> which permitted you to learn them? (poor rate - effective rate) 1 6	3.0
10) Did the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.) (excessive repetition - effective repetition) 1 6	3.0

	Median Scores
Table 18 (continued)	
11) Was the method of presentation (film-tape, manual, etc.) suitable to the subject matter? (inappropriate - appropriate) 1 6	4.0
12) Was the difficulty of the pictorial presentation appropriate considering your age, educational level, intelligence, etc.? (inappropriate - appropriate) 1 6	5.0
13) Were the details of the information or demonstra- tion clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of close ups, and other technical considerations.) (obscure - clear) 1 6	4.0
14) Was the verbal difficulty of the materials appropriate considering your educational level, and previous experience? (inappropriate - appropriate) 1 6	5.0
15) Did the narrator contribute to the effectiveness of this instructional system? (i.e., tone of voice, manner of speech, or speed of delivery, etc.) (detracted - contributed) 1 6	4.0
16) Was the sound track clearly audible? (inaudible - audible) 1 6	3.0
17) Was the information presented in the student manual and student work sheets well integrated with that presented in the film-tape or motion pictures? (no integration - integration) 1 6	4.0

18) Other Comments:

Material beneficial but manner of presentation often confusing, mainly associating tape/film with manual. Machinery didn't work and inexperienced or non-existing help did nothing to add to my enthusiasm for this type of presentation. Use tape/film with in-class discussion.

Table 18 (continued)

Not enough time allowed to figure out what was going on in order to follow in the manual.

The almost sterile atmosphere of each situation being out of the classroom context distracted greatly.

Tape too fast as far as reading the manual for the follow-up (two responses).

Couldn't follow the manual too well. Instructors lacking for parts (three responses).

Repetition used excessively (two responses).

Pictorial presentation inappropriate: too easy (two responses).

Technical difficulties made experience almost incoherent. Even so, had very difficult time in following the series of scenes and thinking about them.

Dial-Access facilities poor quality. Couldn't find the time to listen -- made me very discouraged. Program probably worthwhile.

Table 19. Comparison of Findings of Dial-Access Group
with the Regular Field Trial Group.

<u>Factor and Item</u>	<u>Regular Field Trial</u>		<u>Dial-Access</u>
	<u>Instructors</u>	<u>Learners</u>	<u>Learners</u>
Design			
*1. Objective clarity	adequate	adequate	revisions indicated
5. Relation of content with objectives	adequate	adequate	adequate
*6. Content match with level of training	adequate	marginal	revisions indicated
*7. Important ideas emphasized	adequate	marginal	revisions indicated
8. Amount of content	marginal	adequate	marginal
9. Rate of development	revisions indicated	marginal	revisions indicated
*10. Repetition	revisions indicated	marginal	revisions indicated
11. Method of presentation	adequate	marginal	marginal
12. Pictorial presentation match with learner level	marginal	marginal	adequate
*13. Technical quality of media	revisions indicated	revisions indicated	marginal
14. Verbal difficulty match with learner level	marginal	adequate	adequate
15. Narrator	adequate	marginal	marginal
*16. Sound track	adequate	marginal	revisions indicated
17. Integration of manual with media	revisions indicated	marginal	marginal
Credibility			
3. Relation to previous knowledge	marginal	marginal	marginal
*4. Appropriateness for target audience	adequate	adequate	adequate
Affectivity			
*2. Ability to attract and hold interest	marginal	marginal to sub-marginal	marginal

* Indicates item of primary importance.

Simulation training was given to the ten treatment group subjects during the first week of their student teaching.

The findings revealed:

- 1) Using the OScAR: there was relatively more pupil disorderly behavior in the classrooms of student teachers in the no-simulation group ($p < .06$). Observer differences ($p < .05$) and observer by treatment may have masked these differences (which incidently were not considered significant).
- 2) Using the OScAR: subjects in the simulation group used more private desist strategies, more low power desist strategies, and more non-verbal desist strategies than subjects in the control group ($p < .01$, $p < .05$, and $p < .06$, respectively). Again, significant observer differences and treatment by observer interactions clouded the interpretation somewhat.
- 3) Using the OScAR: students in the simulation group used private desist strategies more appropriately than students in the control group ($p < .03$). Again, observer differences and an interaction between observers and treatment clouded the interpretation.
- 4) Using the Perceived Teaching Difficulties Report: simulation training had an affect on the perception of student teachers' attitudes toward classroom management as a teaching difficulty. Interactions between the time the measure was taken and treatment again made interpretation difficult.
- 5) Using the Attitude Scale: highly favorable attitudes were expressed by the subjects using the simulation materials.
- 6) Using the OScAR: student teachers in the simulation group used less traditional pupil activities (e.g., board work, recitation, reading aloud, giving reports, etc.) than the no-simulation group ($p < .02$).
- 7) Using the OScAR: student teachers in the simulation group provided significantly ($p < .05$) more opportunities for pupils to assume leadership roles in the class (a significant observer by treatment interaction was also detected however).
- 8) Using the OScAR: simulation-trained teachers were more supportive of pupils, and were less verbal than teachers in the control group.
- 9) Using the Classroom Supervisors Report: discipline was more of a problem for subjects in the control group as the quarter progressed.

In conclusion, Forgan recommends that "The Classroom Management Instructional Simulation Materials" or comparable materials be used in the preparation program for elementary majors.

Is the difficulty of criterion exercises
consistent in Phase I?

Table 20 presents a summary of data from a random selection of Phase I student manuals. Note that questions or exercises corresponding to each part of the Student Manual are noted. For each exercise or question three numbers are given: the number of students passing, the number of students failing, and the number of students not answering. Special attention should be paid to those questions or exercises marked by an asterisk, as they represent criterion items. The results are summarized across schools for the criterion items in Table 21.

It may be seen that for the most part, no particular criterion exercise seems markedly more difficult than the others, with the possible exception of Questions 1 and 2 in Part V. The data presented in Table 20 may be valuable for a detailed, item-by-item analysis of each question and exercise in Phase I in view of making adaptive revisions. This examination, however, is beyond the scope of the present report.

At what point in Phase II training do learners
reach criterion performance on the use of desist
strategies (8 correct out of 9)?

During the development of the instructional simulation system, there was some disagreement among the staff as to the necessity of Phase II. For some, Part 5 of Phase I seemed adequate. To assess the importance of Phase II, within the constraints of the field trial, learning or performance curves may be compared across the three "days" of simulation films. These data are summarized in Figure 7 for four field trial sites. Descriptive statistics are presented in Table 22.

Do attitudes toward the two phases of instruction
vary markedly from each other?

One field trial site gave the Student Analysis Form both after Phase I instruction and after Phase II instruction. This provided an opportunity to examine ratings for each phase separately. The data are summarized in Table 23.

For the most part, students rated the Phase I instruction higher than Phase II. On eleven of the 17 scales, responses averaged one point lower. An examination of the remarks revealed that in some cases, the instructor went too slowly in drawing out a discussion of a film. In other cases, students indicated that they did not need all of the examples given. Many students felt that they needed more information about the problems.

**Table 20. Summary of data from
PHASE I STUDENT MANUAL**

PART 1 The Three Major Roles

Term	Fall '68			Winter '68-'69				Spring '69	
	4	6	7	2A	2B	4	8	10	12
School									
Exercise 1a	9/1/0	8/0/0	11/0/0	19/1/0	59/0/0	9/0/0	6/0/0	4/0/0	15/0/0
Exercise 1b	9/1/0	6/0/2	9/2/0	13/7/0	53/2/4	7/2/0	5/1/0	4/0/0	15/0/0
Exercise 2*	10/0/0	8/0/0	11/0/0	20/0/0	56/3/0	9/0/0	6/0/0	4/0/0	13/2/0
Exercise 3a	10/0/0	6/2/0	10/1/0	19/1/0	56/1/2	9/0/0	6/0/0	3/0/1	15/0/0
Exercise 3b	8/1/1	8/0/0	11/0/0	19/1/0	58/0/1	9/0/0	6/0/0	2/1/1	15/0/0

PART 2 Norm Setting

Term	Fall '68				Winter '68-'69				Spring '69	
	4	6	7	2A	2B	4	8	10	12	9
School										
Exercise 1a	10/0/0	8/0/0	11/0/0	20/0/0	56/3/0	9/0/0	6/0/0	4/0/0	15/0/0	27/0/0
Exercise 1b	8/2/0	8/0/0	11/0/0	13/7/0	50/9/0	9/0/0	5/1/0	4/0/0	15/0/0	26/1/0
Exercise 1c	10/0/0	8/0/0	11/0/0	17/3/0	59/0/0	9/0/0	5/1/0	4/0/0	15/0/0	27/0/0
Exercise 1d	10/0/0	8/0/0	9/2/0	17/3/0	47/11/1	9/0/0	6/0/0	4/0/0	14/1/0	27/0/0
Exercise 2a	10/0/0	8/0/0	11/0/0	19/0/1	58/0/1	9/0/0	6/0/0	4/0/0	15/0/0	27/0/0
Exercise 2b	10/0/0	8/0/0	11/0/0	19/0/1	5/1/2/6	9/0/0	6/0/0	4/0/0	15/0/0	27/0/0

NOTE: Three numbers are provided above. The first denotes the number of students passing the exercise or question. The second number indicates the number failing the question or exercise. The third number denotes the number of students not answering the exercise. The starred exercise or question denotes the criterion exercise.

Table 20 (Continued)
PART 2 Norm Setting (continued)

Term	Fall '68			Winter '68-'69					Spring '69	
	4	6	7	2A	2B	4	8	10	12	9
School										
Exercise 3a	10/0/0	8/0/0	11/0/0	18/0/2	53/4/2	9/0/0	6/0/0	4/0/0	15/0/0	27/0/0
Exercise 3b	9/0/1	8/0/0	10/1/0	18/0/2	53/3/3	9/0/0	6/0/0	3/1/0	15/0/0	25/2/0
Exercise 4*	6/0/4	5/0/3	9/2/0	15/2/3	39/2/18	8/0/1	1/0/5	3/0/1	13/0/2	26/1/0

PART 3 Dealing with Disruptions

Term	Fall '68			Winter '68-'69					Spring '69	
	4	6	7	2A	2B	4	8	10	12	9
School										
Question 1	9/1/0	6/2/0	9/2/0	20/0/0	55/4/0	9/0/0	5/0/0	4/0/0	12/1/2	27/0/0
Question 2	10/0/0	8/0/0	11/0/0	20/0/0	58/1/0	9/0/0	5/0/0	4/0/0	12/1/2	27/0/0
Exercise 1a	7/2/1	8/0/0	11/0/0	19/1/0	55/4/0	7/1/1	5/0/0	3/1/0	9/3/3	22/5/0
Exercise 1b	6/2/2	8/0/0	9/2/0	18/2/0	50/9/0	9/0/0	4/1/0	3/1/0	10/2/3	22/5/0
Exercise 1c*	8/1/1	8/0/0	10/1/0	19/1/0	53/6/0	9/0/0	5/0/0	3/1/0	10/2/3	24/3/0
Question 3	10/0/0	7/1/0	10/1/0	20/0/0	51/8/0	9/0/0	5/0/0	3/1/0	15/0/0	26/1/0
Question 4	10/0/0	8/0/0	10/1/0	20/0/0	56/2/1	9/0/0	5/0/0	3/0/1	15/0/0	26/1/0
Exercise 2a	6/2/2	7/1/0	8/3/0	7/13/0	50/7/2	7/1/1	4/1/0	3/1/0	7/5/3	20/7/0
Exercise 2b	6/2/2	8/0/0	10/1/0	17/3/0	56/3/0	9/0/0	4/1/0	4/0/0	11/1/3	22/5/0
Exercise 2c*	9/0/1	8/0/0	11/0/0	20/0/0	59/0/0	9/0/0	5/0/0	4/0/0	12/0/3	25/2/0
Exercise 3a	4/6/0	7/1/0	7/4/0	16/4/0	54/5/0	6/3/0	4/1/0	2/2/0	9/3/3	19/8/0
Exercise 3b	8/2/0	8/0/0	9/2/0	17/3/0	55/4/0	8/1/0	4/1/0	4/0/0	10/2/3	22/5/0
Exercise 3c*	6/4/0	8/0/0	10/1/0	19/1/0	57/2/0	9/0/0	5/0/0	3/1/0	12/0/3	24/3/0

Table 20 (Continued)
PART 4 Dealing with Disruptions (continued)

	Term	Fall '68			Winter '68-'69				Spring '69		
		4	6	7	2A	2B	4	8	10	12	9
Question or Exercise	School										
	Question 1	9/1/0	8/0/0	10/0/0	15/5/0	57/2/0	9/0/0	5/0/0	4/0/0	14/1/0	26/1/0
	Question 2	9/1/0	8/0/0	10/0/0	19/1/0	57/2/0	9/0/0	5/0/0	4/0/0	14/1/0	26/1/0
	Question 3	7/3/0	3/5/0	6/4/0	10/9/1	29/30/0	6/3/0	3/2/0	1/3/0	9/6/0	16/11/0
	Question 4	5/5/0	7/1/0	7/3/0	15/4/1	43/12/4	8/1/0	5/0/0	3/1/0	14/1/0	21/6/0
	Question 5	9/1/0	8/0/0	10/0/0	15/5/0	56/3/0	9/0/0	5/0/0	4/0/0	14/1/0	26/1/0
	Question 6	5/5/0	7/1/0	10/0/0	14/6/0	40/15/0	8/1/0	4/1/0	2/2/0	13/2/0	21/6/0
	Question 7	9/1/0	8/0/0	9/1/0	15/5/0	59/0/0	9/0/0	5/0/0	4/0/0	15/0/0	27/0/0
	Question 8	9/1/0	8/0/0	9/1/0	14/6/0	55/4/0	8/1/0	5/0/0	4/0/0	14/1/0	26/1/0
	Question 9	10/0/0	8/0/0	9/1/0	19/1/0	56/3/0	9/0/0	4/1/0	4/0/0	14/1/0	26/1/0
	Question 10	7/3/0	8/0/0	8/2/0	18/2/0	49/8/2	9/0/0	4/1/0	4/0/0	4/11/0	5/22/0
	Question 11	10/0/0	8/0/0	10/0/0	10/10/0	58/1/0	9/0/0	5/0/0	4/0/0	15/0/0	26/1/0
	Question 12	10/0/0	8/0/0	10/0/0	20/0/0	58/1/0	9/0/0	5/0/0	4/0/0	15/0/0	26/1/0
	Exercise 1a*	8/1/1	8/0/0	10/0/0	20/0/0	59/0/0	9/0/0	5/0/0	4/0/0	15/0/0	26/1/0
	Exercise 1b*	8/2/0	8/0/0	8/2/0	14/6/0	52/7/0	9/0/0	4/1/0	4/0/0	12/3/0	24/3/0
	Exercise 2a	9/1/0	8/0/0	7/3/0	14/6/0	50/9/0	9/0/0	5/0/0	4/0/0	12/3/0	23/4/0
	Exercise 2b*	10/0/0	8/0/0	9/1/0	18/2/0	57/2/0	9/0/0	5/0/0	3/1/0	14/1/0	25/2/0
	Exercise 3a	8/0/2	6/2/0	10/0/0	17/1/2	52/3/4	9/0/0	4/1/0	4/0/0	14/1/0	25/1/1
	Exercise 3b	8/0/2	7/1/0	7/3/0	17/1/2	52/2/5	7/1/1	4/1/0	4/0/0	14/1/0	25/1/1
	Exercise 3c	8/0/2	8/0/0	8/2/0	17/1/2	53/2/4	8/0/1	5/0/0	4/0/0	15/0/0	25/1/1

Table 20 (Continued)
Part 5 review and Self Evaluation

Question 1 Situation	Institution									
	4	6	7	2A	2B	4	8	10	12	9
1	7/3/0	8/0/0		11/1/8	44/15/0	9/0/0		4/0/0	12/3/0	25/0/2
2	10/0/0	8/0/0		12/0/8	42/17/0	9/0/0		4/0/0	13/2/0	25/0/2
3	10/0/0	8/0/0		12/8/0	40/19/0	9/0/0		4/0/0	13/2/0	26/0/1
4	9/1/0	3/5/0		11/1/8	45/14/0	9/0/0		4/0/0	14/1/0	27/0/0
5	9/1/0	3/5/0		10/2/8	14/45/0	2/7/0		1/0/3	11/4/0	16/11/0
6	5/5/0	8/0/0		10/2/8	26/33/0	4/5/0		3/0/1	11/4/0	19/8/0
7	8/2/0	7/1/0		12/8/0	42/17/0	9/0/0		4/0/0	13/2/0	26/1/0
8	9/1/0	8/0/0		11/1/8	39/20/0	9/0/0		4/0/0	12/3/0	26/1/0
9	10/0/0	8/0/0		11/1/8	42/17/0	9/0/0		4/0/0	14/1/0	25/2/0
10	5/5/0	8/0/0		10/2/8	42/17/0	9/0/0		4/0/0	14/1/0	25/2/0
11	5/5/0	8/0/0		6/6/8	43/16/0	9/0/0		4/0/0	15/0/0	27/0/0
12	5/5/0	6/2/0		6/6/8	39/20/0	8/1/0		3/0/1	13/2/0	24/3/0
13	9/1/0	8/0/0		6/6/8	42/17/0	9/0/0		4/0/0	2/0/13	25/2/0
14	9/1/0	8/0/0		11/1/8	44/15/0	9/0/0		4/0/0	2/0/13	25/2/0
15	3/7/0	8/0/0		8/4/8	36/23/0	8/1/0		4/0/0	2/0/13	25/2/0
16	3/2/0	7/1/0		12/0/8	40/19/0	9/0/0		4/0/0	2/0/13	25/2/0
17	5/5/0	5/3/0		3/9/8	20/39/0	5/4/0		2/0/2	1/1/13	13/12/0
18	3/7/0	7/1/0		5/7/8	36/23/0	8/1/0		1/0/3	2/0/13	22/5/0
19	9/1/0	6/2/0		3/9/8	34/25/0	7/2/0		0/0/4	2/0/13	21/6/0
20	9/1/0	7/1/0		11/1/8	43/16/0	9/0/0		4/0/0	2/0/13	23/4/0

Table 20 (Continued)
Part 5

Question 2	Institution									
	4	6	7	2A	2B	4	8	10	12	9
Situation										
1	10/0/0	8/0/0		20/0/0	22/37/0	9/0/0		4/0/0	15/0/0	27/0/0
2	8/2/0	8/0/0		20/0/0	22/37/0	9/0/0		4/0/0	15/0/0	27/0/0
3	10/0/0	8/0/0		20/0/0	24/35/0	9/0/0		4/0/0	15/0/0	27/0/0
4	10/0/0	8/0/0		20/0/0	24/35/0	9/0/0		3/0/1	15/0/0	27/0/0
5	9/1/0	8/0/0		18/2/0	21/38/0	9/0/0		3/0/1	15/0/0	27/0/0
6	3/7/0	8/0/0		19/1/0	25/34/0	9/0/0		3/0/1	15/0/0	27/0/0
7	10/0/0	8/0/0		20/0/0	21/38/0	9/0/0		3/0/1	13/2/0	27/0/0
8	7/3/0	8/0/0		20/0/0	21/38/0	9/0/0		3/0/1	12/3/0	27/0/0
9	3/7/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	14/1/0	27/0/0
10	7/3/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	14/1/0	27/0/0
11	5/5/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	15/0/0	27/0/0
12	8/2/0	8/0/0		20/0/0	20/39/0	8/0/1		2/0/2	13/2/0	27/0/0
13	9/1/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	2/0/13	27/0/0
14	7/3/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	2/0/13	27/0/0
15	9/1/0	8/0/0		20/0/0	23/36/0	9/0/0		3/0/1	2/0/13	27/0/0
16	9/1/0	8/0/0		20/0/0	23/36/0	9/0/0		3/0/1	2/0/13	27/0/0
17	3/3/4	7/1/0		16/0/4	21/38/0	8/0/1		3/0/1	1/0/14	25/0/2
18	8/2/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	2/0/13	27/0/0
19	8/2/0	8/0/0		0/20/0	22/37/0	9/0/0		3/0/1	2/0/13	27/0/0
20	10/0/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	2/0/13	27/0/0

Table 20 (Continued)
Part 5

Question 3 Situation	Institutions									
	4	6	7	2A	2B	4	8	10	12	9
1	8/2/0	8/0/0		20/0/0	23/36/0	9/0/0		4/0/0	15/0/0	26/0/1
2	9/1/0	8/0/0		20/0/0	22/37/0	9/0/0		4/0/0	15/0/0	26/0/1
3	9/1/0	8/0/0		20/0/0	20/39/0	9/0/0		4/0/0	15/0/0	26/0/1
4	8/2/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	15/0/0	26/0/1
5	6/1/3	7/1/0		15/5/0	22/37/0	8/0/1		3/0/1	15/0/0	24/0/3
6	9/1/0	8/0/0		20/0/0	25/34/0	9/0/0		3/0/1	15/0/0	26/0/1
7	10/0/0	7/1/0		20/0/0	22/37/0	9/0/1		3/0/1	15/0/0	27/0/0
8	8/2/0	8/0/0		20/0/0	22/37/0	8/0/1		3/0/1	15/0/0	27/0/0
9	3/1/0	8/0/0		20/0/0	21/38/0	9/0/0		3/0/1	15/0/0	27/0/0
10	10/0/0	7/1/0		20/0/0	21/38/0	9/0/0		3/0/1	15/0/0	27/0/0
11	9/1/0	8/0/0		20/0/0	24/35/0	9/0/0		3/0/1	15/0/0	26/0/1
12	8/2/0	8/0/0		20/0/0	21/38/0	8/0/1		2/0/2	15/0/0	27/0/0
13	9/1/0	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	1/0/14	27/0/0
14	6/3/1	8/0/0		20/0/0	22/37/0	9/0/0		3/0/1	1/0/14	27/0/0
15	6/3/1	8/0/0		20/0/0	23/36/0	9/0/0		3/0/1	1/0/14	27/0/0
16	8/2/0	8/0/0		13/0/7	22/37/0	9/0/0		3/0/1	1/0/14	27/0/0
17	3/2/5	6/1/1		20/0/0	20/39/0	8/0/1		2/0/2	1/0/14	27/0/0
18	6/3/1	8/0/0		20/0/0	22/37/0	9/0/0		1/0/3	1/0/14	27/0/0
19	8/2/0	7/1/0		0/20/0	20/39/0	9/0/0		1/0/3	0/0/15	27/0/0
20	10/0/0	7/1/0		20/0/0	22/37/0	8/0/1		2/0/2	0/0/15	27/0/0

Table 20 (Continued)
Part 5

Question 4	Institution					Institution				
	4	6	7	2A	2B	4	8	10	12	9
Situation 1	8/2/0	8/0/0		19/1/0	37/22/0	8/0/1		4/0/0	14/0/1	22/5/0
2	6/4/0	8/0/0		19/0/1	35/24/0	8/0/1		4/0/0	13/2/0	23/4/0
3	7/3/0	7/1/0		18/2/0	38/21/0	8/0/1		4/0/0	13/2/0	22/5/0
4	6/4/0	7/1/0		18/2/0	34/25/0	8/0/1		4/0/0	11/4/0	20/7/0
5	3/7/0	2/6/0		17/3/0	6/43/0	1/8/0		6/0/4	6/9/0	5/22/0
6	2/8/0	4/4/0		16/4/0	40/19/0	4/4/1		3/0/1	8/7/0	14/13/0
7	7/3/0	8/ /0		18/2/0	32/27/0	8/1/0		4/0/0	9/6/0	21/6/0
8	7/3/0	7/1/0		18/2/0	32/27/0	8/0/1		4/0/0	12/3/0	23/4/0
9	6/4/0	7/1/0		19/1/0	34/25/0	8/1/0		4/0/0	12/3/0	24/3/0
10	7/3/0	8/0/0		18/2/0	34/25/0	8/1/0		4/0/0	12/3/0	23/4/0
11	6/4/0	7/1/0		17/3/0	31/28/0	9/0/0		4/0/0	12/3/0	23/4/0
12	3/7/0	5/3/0		15/5/0	22/37/0	6/3/0		2/0/2	11/4/0	26/1/0
13	7/3/0	8/0/0		17/3/0	33/26/0	7/1/1		4/0/0	2/0/13	26/0/1
14	6/4/0	7/1/0		18/2/0	36/33/0	8/0/1		4/0/0	2/0/13	26/0/1
15	5/5/0	6/2/0		17/3/0	21/38/0	6/3/0		4/0/0	1/1/13	27/0/0
16	9/1/0	6/2/0		20/0/0	26/33/0	6/2/1		4/0/0	1/1/13	27/0/0
17	3/7/0	1/7/0		17/0/3	6/53/0	2/6/1		1/0/3	0/2/13	16/11/0
18	4/6/0	1/7/0		1/19/0	6/53/0	3/6/0		0/0/4	0/2/13	1/26/0
19	3/7/0	1/7/0		1/19/0	5/54/0	3/6/0		0/0/4	1/1/13	5/22/0
20	6/4/0	7/0/1		9/1/0	32/27/0	7/2/0		4/0/0	1/1/13	22/5/0

Table 20 (Continued)
Part 5

Question 5	Institution									
	4	6	7	2A	2B	4	8	10	12	9
Situation										
1	7/1/2	8/0/0		17/0/3	18/41/0	7/0/2		2/0/2	9/0/6	26/0/1
2	7/0/3	8/0/0		19/0/1	19/40/0	7/0/2		3/0/1	13/0/2	26/0/1
3	8/0/2	8/0/0		19/0/1	35/24/0	7/0/2		3/0/1	15/0/0	26/0/1
4	9/0/1	8/0/0		19/0/1	19/40/0	7/0/2		2/0/2	15/0/0	26/0/1
5	4/3/3	5/3/0		17/0/3	15/44/0	4/0/5		3/0/1	14/0/1	24/0/3
6	7/1/2	8/0/0		19/0/1	19/40/0	7/0/2		3/0/1	15/0/0	26/0/1
7	7/0/3	8/0/0		19/0/1	19/40/0	8/0/1		3/0/1	15/0/0	27/0/0
8	6/2/2	8/0/0		20/0/0	19/40/0	6/0/3		3/0/1	15/0/0	27/0/0
9	7/1/2	8/0/0		20/0/0	18/41/0	9/0/0		3/0/1	15/0/0	27/0/0
10	6/3/1	7/1/0		20/0/0	19/40/0	9/0/0		2/0/2	15/0/0	27/0/0
11	6/1/3	8/0/0		18/0/2	18/41/0	9/0/0		2/0/2	15/0/0	27/0/0
12	7/1/2	1/7/0		19/0/1	18/41/0	9/0/0		2/0/2	15/0/0	27/0/0
13	8/1/1	8/0/0		19/0/1	18/41/0	7/0/2		3/0/1	1/0/14	26/0/1
14	7/2/1	7/1/0		19/0/1	18/41/0	8/0/1		3/0/1	1/0/14	27/0/0
15	9/1/0	6/1/1		20/0/0	17/42/0	9/0/0		3/0/1	1/0/14	27/0/0
16	8/1/1	8/0/0		19/0/1	18/41/0	8/0/1		3/0/1	1/0/14	27/0/0
17	4/1/5	4/0/4		17/0/3	15/44/0	5/0/4		3/0/1	0/0/15	17/0/10
18	9/1/0	8/0/0		17/0/3	16/43/0	9/0/0		3/0/1	1/0/14	23/0/4
19	8/1/1	8/0/0		11/5/4	17/42/0	8/0/1		3/0/1	1/0/14	25/0/2
20	8/1/1	8/0/0		17/0/3	19/40/0	9/0/0		3/0/1	1/0/14	25/0/2

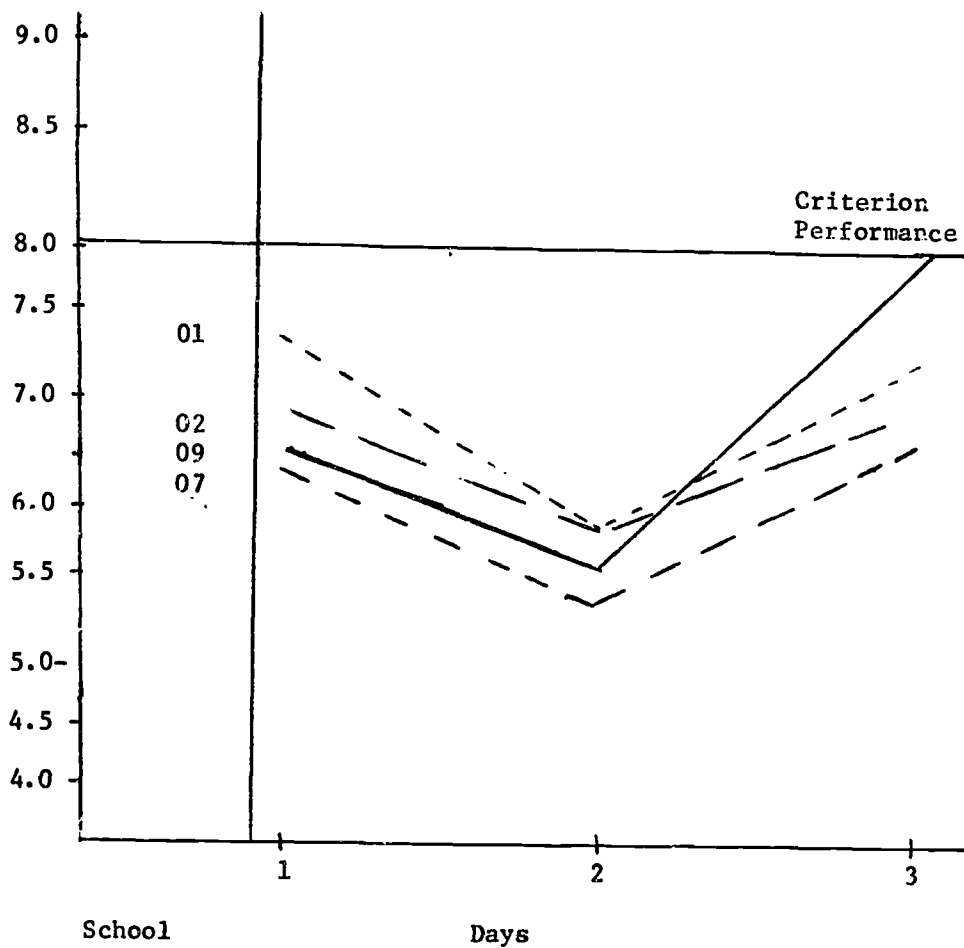
Table 20 (Continued)
Part 5

Question 6		Institution									
4		6	7	2A	2B	4	8	10	12	9	
Situation											
1	7/1/2	8/0/0		20/0/0	19/40/0	7/0/2		2/0/2	10/0/5	26/0/1	
2	7/3/0	8/0/0		20/0/0	20/39/0	7/0/2		3/0/1	14/0/1	26/0/1	
3	6/1/3	8/0/0		20/0/0	19/40/0	7/0/2		2/0/2	15/0/0	26/0/1	
4	7/1/0	8/0/0		19/0/1	19/40/0	7/0/2		2/0/2	14/0/1	26/0/1	
5	4/1/5	5/0/3		16/0/4	13/46/0	3/0/6		2/0/2	15/0/0	24/0/3	
6	8/0/2	8/0/0		19/0/1	19/40/0	7/0/2		3/0/1	15/0/0	25/0/1	
7	7/0/3	7/0/1		20/0/0	19/40/0	8/0/1		3/0/1	15/0/0	27/0/0	
8	6/2/2	8/0/0		20/0/0	19/40/0	6/0/3		3/0/1	15/0/0	26/0/1	
9	6/2/2	8/0/0		20/0/0	17/42/0	9/0/0		2/0/2	15/0/0	26/0/1	
10	8/1/1	8/0/0		20/0/0	18/41/0	9/0/0		2/0/2	15/0/0	26/0/1	
11	9/1/0	8/0/0		20/0/0	18/41/0	8/0/1		2/0/2	15/0/0	27/0/0	
12	7/0/3	8/0/0		20/0/0	17/42/0	9/0/0		2/0/2	15/0/0	27/0/0	
13	7/3/0	8/0/0		20/0/0	22/37/0	7/0/2		2/0/2	1/0/14	25/0/2	
14	7/3/0	8/0/0		20/0/0	22/37/0	8/0/1		3/0/1	1/0/14	26/0/1	
15	9/0/1	7/0/1		19/0/1	22/37/0	9/0/0		3/0/1	1/0/14	27/0/0	
16	9/1/0	7/0/1		20/0/0	23/36/0	8/0/1		3/0/1	1/0/14	27/0/0	
17	2/2/6	2/0/6		14/0/6	21/38/0	4/0/5		1/0/3	0/0/15	12/15/0	
18	6/1/3	5/0/3		12/0/8	22/37/0	7/0/2		1/0/3	0/0/15	16/11/0	
19	6/1/3	4/0/4		12/0/8	20/39/0	7/0/2		1/0/3	0/0/15	21/0/0	
20	7/3/0	7/0/1		18/0/2	22/37/0	8/0/1		3/0/1	0/0/15	25/0/2	

Table 21. Summary of Data on Criterion Items
Across Schools (and Terms)

<u>Part</u>	<u>Number Passing</u>	<u>Number Failing</u>	<u>No Answer</u>	<u>Percentage Passing</u>
I	166	5	0	97%
II	125	7	37	74%
III 1c	149	16	4	88%
2c	162	2	5	96%
3c	155	12	4	92%
IV 1a	164	2	1	98%
1b	143	24	0	87%
2a	141	26	0	85%
2b	158	9	0	95%
V 1	2087	686	277	61%
2	2092	813	145	69%
3	2154	810	172	79%

Figure 7. Graph Showing Performance in Phase II Training on Each of Three "Days" for Selected Schools



**Table 22. Means for Performance on "Days" 1, 2 and 3
of the Phase II Student Manual**

<u>School</u>	Phase II		
	Day 1	Day 2	Day 3
01	7.40	5.90	6.90
02	6.82	5.90	7.14
07	6.38	5.38	6.50
09	6.48	5.55	7.98

Table 23. Summary of Data From
STUDENT ANALYSIS FORM for
Phase I and II Separately

	Phase	
	I	II
1) Were the objectives of the instructional system clear to you? (ambiguous - clear) 1 6	5.0	5.0
2) Did the instructional system attract and hold your interest? (dull - interesting) 1 6	4.0	3.0
3) Did the instructional system build on your previous knowledge, skills or experience? (unrelated - related) 1 6	5.0	4.0
4) Was the subject matter presented in this instructional system appropriate for your present level of training? (inappropriate - appropriate) 1 6	5.0	4.5
5) Did the content relate directly to the main objectives of the instructional system? (unrelated - related) 1 6	5.0	5.0
6) Was the content presented in a well organized, systematic pattern? (disorganized - organized) 1 6	5.0	3.0
7) Were the important ideas or procedures clearly emphasized? (vague - clear) 1 6	5.0	4.0
8) Did the instructional system attempt to present too much material to be learned at one time? (too many points - learnable amount of points) 1 6	6.0	5.0
9) Were new facts, ideas, terminology, or procedures introduced at a <u>rate</u> which permitted you to learn them? (poor rate - effective rate) 1 6	5.0	4.0
10) Did the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.) (excessive repetition - effective repetition) 1 6	5.0	5.0

Table 23 (Continued)

		Phase	
		I	II
11)	Was the method of presentation (film-tape, manual, etc.) suitable to the subject matter? (inappropriate - appropriate) 1 6	5.0	5.0
12)	Was the difficulty of the pictorial presentation appropriate considering your age, educational level, intelligence, etc.? (inappropriate - appropriate) 1 6	4.0	3.5
13)	Were the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of close ups, and other technical considerations.) (obscure - clear) 1 6	4.0	3.0
14)	Was the verbal difficulty of the materials appropriate considering your educational level, and previous experience? (inappropriate - appropriate) 1 6	5.0	4.0
15)	Did the narrator contribute to the effectiveness of this instructional system? (i.e., tone of voice, manner of speech, or speed of delivery, etc.) (detracted - contributed) 1 6	5.0	5.0
16)	Was the sound track clearly audible? (inaudible - audible) 1 6	5.0	5.0
17)	Was the information presented in the student manual and student work sheets well integrated with that presented in the film-tape or motion pictures? (no integration - integration) 1 6	5.0	5.0
18)	Other comments:		

Phase I

A movie of these situations would be easier to follow and more beneficial than the slides. Some of the strategies were over simplified.

Some of the material in the film-tape would have been more effective in movie form because with the slides, one couldn't always tell who was speaking.

Table 23 (Continued)

System would be valuable if better organized and if it contained more information.

It was good part of the time, very poor other times.

A good deal of material and information was given. However, I feel that a discussion after the different sequences rather than a work-book would be more beneficial. The film went too fast in places, but the time in between films went too slow -- repetition was boring.

Projector problems made it difficult.

Some of the slides on Part 5 of the manual enable students to derive enough information to make realistic judgments.

Interesting, but slow at times.

It would have been good to have more pictures. It was unclear whether or not the children completed a specific behavior.

The tapes were interesting and constructive, but the material presented was too repetitious. The person showing the films goes too slow.

Generally good. Camera angles bad. Good situations.

This is an excellent program in helping to prepare me to better handle situations.

Too slow and ambiguous.

Class majority disagreed with manual quite often.

The program was very effective when coupled with discussion.

Bored with the presentation. This type of instruction would be good once in a while, but it was presented too many times.

Phase II

Problem was not stated clearly.

It was hard to tell where the teacher was in relation to the students.

Situations very ambiguous.

Writing answers in manual unnecessary.

I learned tremendous amount which will help me in my teaching career.

Situations were unrealistic.

It was hard to tell where the teacher was in relation to students.

Table 23 (Continued)
Problem was not clearly presented.

Teacher responses were not appropriate.

Situations sometimes very confusing.

It was hard to tell where there was a problem -- do children really act that way?

Not enough information given in some situations, e.g., closeness of teacher to student in reading circle disturbance.

Problems did not correspond to response given. Discussion was most beneficial.

Too much repetition. Class discussions too long and repetitious.

Procedure appears in the right direction. Perhaps real classroom films might be more effective.

Too much time was spent writing rules on board.

Situations generally unrealistic: too repetitious.

Too much repetition! Boring.

Trouble with coordinating film with the manual. Writing rules on the board overemphasized.

The films and workbooks were a waste of time and money. Repetition was boring. Situations were too obvious and unrealistic. It brought out discussion on management points, however, but that could have been done quicker.

Both phases could be condensed to 6-8 weeks instead of 10-11 weeks.

Most situations were very unrealistic -- therefore few of the problems and situations can be applied to the actual classroom. Too much time was spent on each situation. Some time and discussion on each situation is OK.

The film and manual didn't seem to go together. The objectives in the manual were unclear. Words such as "behavior" not clearly understood.

V. Conclusions and Recommendations

On the basis of the data discussed above, many implications may be drawn regarding adaptive revisions. The ability to do so speaks well of the quality of the data and especially the evaluation instruments. The instruments seemed to "perform" admirably in highlighting weak aspects of the system. The following discussion only relates to the Classroom Management Series.

Design

Implication: Both Phase I and II contain excessive repetition for some students, and develop ideas too slowly.

This finding just possibly represents the most significant revision of the series. Reading through the comments of both students and faculty reveals the strong negative affects caused by the repetition. The remedy is obvious: just as recycling was suggested, so "wash-ahead" might be suggested. Criteria, such as three or four consecutive right answers might be tried. It is also possible that certain sequences in Part 2 could be examined for length, with an eye for shortening the sequence.

Implication: Slide pictures in Phase I often confusing.

The compromise between fidelity and cost was not entirely successful. For example, movement of the instructor, or change in focus, was difficult to show with slides. Often, students would miss a cue that the teacher moved closer to children since motion is practically impossible to convey with ordinary slide projectors. The Audiscan projector could have been utilized to show up to five slides a second, thus creating if desired an illusion of motion (similar to the effect of using a "strobe" light). However, this capability was not used since other equipment could not handle the fast slide changes.

One solution would be to circle on the slide or point out with an arrow cues to watch for in the presentation. In this way, the student would be sensitized to look for change in teacher focus, etc.

Of course, a second more radical alternative would be to use motion pictures for Phase I. This was in fact suggested by one of the field trial representatives. Although the cost has not been computed, it is estimated to be sizable. Interestingly enough, the use of motion pictures would repute the assumed advantages of using still pictures and taped narrative (Kersh, 1963). In that study, the superiority of still over motion was hypothesized to be because of the simplicity of the still picture - it could be studied at length, and it did not present a mass of ever-changing detail. This writer would favor the retention of the slide-tape, but with the addition of cues to highlight motion and change of location.

Implication: Slide-tape and manual needs more integration.

The integration of the slide-tape and the manual is easily accomplished by a change in format of the manual, i.e., instructions printed in italics, etc. Also, instructions on the slides themselves might be clarified. It should be noted that had the synchronization of the slide-tape presentation been foolproof, the problem of integration of slide-tape and manual would probably be minimal. Therefore, attention should be paid to this matter. A search should be conducted for equipment that will perform the synchronization function with preciseness and without error.

Implication: The percentage of students passing criterion items on the Phase I manual is generally high, except for Part 5.

As students complained of excessive repetition, it seems out of place to recommend that more examples be included in Part 5 in order to increase opportunities for practice and to raise performance. Perhaps the answer lies in the refilming of some of the slides to enhance clarity, or the provision of prompts on the slide (e.g. arrows) to highlight hard-to-spot cues. However, it is not inconceivable that there is a relation between the ability to spot difficulties in still pictures and the ability to react in more realistic (moving) situations.

Implication: Phase II films do not exercise each of the six types of desist strategies systematically.

An examination of the types of desist strategies exercised (see p. 12, Instructor Manual) reveals that the majority of the problems dealt with situations that required moderate power performed publically. No situations were designed to reflect use of the public-low-power or private-high-power strategies. If this is indeed a serious fault of the materials, some revision is indicated.

Implication: Performance on each "day" in Phase II does not consistently rise over "days". In fact, in each of four schools, performance on Day 2 is lower than on Day 1 on the desist strategies measure.

The reasons for this are obscure. Certainly, one might entertain the hypothesis that affectivity lowers on account of the repetition in Day 1, this affecting performance on Day 2. A second hypothesis is that the nature of the simulations are different for each day, as established above.

Implication: Phase I instruction is regarded as better than Phase II instruction.

The complaints about Phase II centered on the need for more information upon which to react in the simulation experiences, and the excessive amount of repetition. Some students complained that the discussion dragged on too long.

Adaptive revisions are indicated in the Phase II format. Short of refilming, as discussed above, the background situations might be "beefed up." Further, the student might be given an option to move onto the self-evaluation test as soon as he feels able to, or after reaching some criterion, e.g., four consecutive appropriate answers. Finally, the orientation booklet might be discarded altogether in favor of some crucial information appearing at the beginning of each problem in the background statement.

Credibility

Conclusions: The content of the instructional system is credible and relevant.

It is gratifying to note that the content is judged to be credible and relevant by the majority of those seeing or using the materials. Of course there were exceptions, but those expressing the minority viewpoint were few.

Timeliness

Implication: The instructional system is timely, that is, it is useful in the educational context as it is now found.

How long this will hold is uncertain. There is a slow but sure trend toward individually prescribed instruction with its iniquitous set of classroom management problems. Yet, it seems safe to say that the principles taught in the series are so powerful that the actual physical context of the classroom is secondary. If this is so, updating of the materials could probably be delayed for some time.

Affectivity

Implication: The ability of the system to attract and hold the interest of the target audience seems marginal.

As the system is revised to reduce repetitiveness and slowness of development of ideas, as well as the media presentation, it seems reasonable to expect the affectivity level to raise. It seems quite reasonable to assume that monotony had a large bearing on the attitudes toward the system. On the other hand, the findings of the Thurstone-type questionnaire revealed attitudes quite similar to those found in previous studies on classroom simulation. It could be concluded that although there is room for improvement, affect was not negative.

Manageability

Implication: The system seems manageable, in terms of the use or adaptation of physical space, but not in terms of the mechanical characteristics of the hardware used.

An important factor to consider in this respect is the mechanical features of the slide-tape apparatus. It seems almost imperative that any hardware that is used be capable of reversing the program. When slides proceed speedily, it makes little sense, when missing an important cue, to be forced to complete the entire program before being able to review that troublesome slide.

Further, the apparatus must be foolproof with respect to synchronization. Even the most able of learners cannot cope with a presentation that cannot stay "in sync".

Strength

Implication: The system seems to possess strength to change behavior, as measured by a simulation test, but not to the degree called for in the statement of objectives.

Examination of the mean performance reveals that the "miss" was not great in terms of the number of items correct. What created the problem seems to be the unreliability of the system more than its strength or lack of strength (see below). It is possible that when certain things are revised, the system will be capable of fulfilling the stated objectives. It is also possible that the objectives call for too high a degree of performance.

Reliability

Implication: The system does not reliably change behaviors with given groups of learners.

This is a disappointing result which directly relates to the failure of the system to fulfill its stated objectives. Had reliability been higher, even moderately higher, it is quite certain that the objectives of instruction would have been met. It is possible that the revisions indicated above could heighten reliability.

Robustness

Implication: The system works equally well with elementary or secondary student trainees.

The system seems robust, at least in terms of its use with students who are preparing to be elementary or secondary teachers. This is somewhat surprising in that the target population was students training to be elementary students. However, it should be noted that the students were at the same institution. Thus, the factors leading to its acceptance and effectiveness with one group were probably operating with the other group.

Implication: The system exhibits different results at different institutions.

Can this situation ever be different? Theoretically : system can be so robust that it produces identical results at widely varying institutions. In the present case, many factors could have contributed to this variance:

- size of teacher education program
- predisposition of instructor
- background of students
- placement in the curriculum
- use and timing of materials
- training of instructor
- hardware and facilities

How can the present system be made more robust? To require that institutions standardize with regard to the above mentioned factors would be next to impossible. Yet revising the system to be more robust in terms of its use at different institutions seems to be very difficult in light of the available information.

Implication: The system is rated generally higher by experienced teachers than by college students.

One instructor lamented the fact that students did not accept the system as enthusiastically as he thought they would (or should). The data received from the Student Analysis Forms help pinpoint potential "enthusiasm damper" factors. Experienced teachers may have overlooked faults of the system because they thought the information was helpful. This is quite possible. In any event, enough information has been gathered to make the probable success of the next revision quite high.

Implication: The use of the dial-access system for presenting the materials poses problems in terms of effective and efficient implementation, but does not affect ratings of credibility or affectivity.

The problems created by the revision of the materials to dial-access are not insurmountable. However, it does illustrate the need for much more careful coordination of machines and written materials when sophisticated hardware is used. The need for adequately trained personnel is also indicated.

Effect in the Classroom

Implication: The system changes the classroom behavior of student teachers.

It is heartening to note that the research of Forgan supports the intuitive hunches that simulation bridges the gap between the textbook and the operational situation. In fact, the ability of the system to

change behavior in the classroom leads this writer to speculate that the objectives stated in Chapter II may be too rigid. Perhaps the degree (e.g., 90% of the students will answer 8 of the 9 desist strategy problems appropriately) should be relaxed to say, 75% of the students will answer 7 of the 9 problems appropriately.

Conclusion

The Classroom Management Series left little to be desired in way of timeliness and credibility. Design-wise, improvements were indicated that are expected to have a large effect on the strength, robustness, reliability, and affect created by the system. These changes are not impossible to perform within the context of a pre-dissemination effort. Generally speaking, this author would be reluctant to disseminate the series in their present format as the quantity of data indicating adaptive revisions is weighty and should not be ignored.

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Appendix A

**Establishing Teaching Principles
in the Area
of Classroom Management**

Carl J. Wallen

INTERIM REPORT

**Project No. 5-0916
Contract No. OE-6-10-277**

**Low Cost Instructional Simulation
Materials For Teacher Education**

**Establishing Teaching Principles in the
Area of Classroom Management**

Carl J. Wallen

**Teaching Research
Oregon State System of Higher Education**

Monmouth, Oregon

January, 1968

The research reported herein was performed pursuant to a contract with the Office of Education, U.S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

**U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE**

**Office of Education
Bureau of Research**

Establishing Teaching Principles in The
Area of Classroom Management

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Teaching Research
Oregon State System of Higher Education

The effort reported here is part of a project (Low-Cost Instructional Simulation Materials for Teacher Education, Project No. 5-0916) to design an instructional system to train elementary school teachers to use effective disciplinary techniques. The project has three stages: (1) identification of content, (2) designing the instructional system, and (3) testing the effectiveness of the system. Stage One is reported here.

The purpose of Stage One was to identify widely applicable teaching principles by which elementary teachers might control children's social behavior in a way which enables the teachers to devote their maximum effort and time to developing children's knowledges, skills, attitudes, and mental and physical health. The general procedure followed was: (1) to review the educational literature in order to identify the classroom management teaching principles which beginning elementary teachers have difficulty applying; (2) to review the literature in social psychology in order to establish the reliability of the identified classroom management teaching principles; and (3) to test the proficiency with which student teachers applied the classroom management teaching principles to filmed situational problems, the purpose of which was to determine whether students had already learned the teaching principles, and thus needed no additional instruction. The result of the effort was the identification of two classroom management teaching principles which: (1) beginning teachers had difficulty applying; (2) were reliable; and, (3) a sampling of student teachers were ineffective in applying.

¹Now at the University of Oregon.

DEFINITIONS

Principles

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Gagne defines a principle in its simplest formal structure as the statement "If A, Then B". A principle statement relates two or more concepts. The principle "Air expands when it is warm" states a relationship between volume of air and application of heat.

A principle can be stated so that it guides action. A youngster having a balloon filled with air, a hotplate, and a desire to make the balloon grow larger, should place the balloon over the hotplate. The action - guiding principle might be stated "If you have a hotplate and a balloon filled with air, and you desire to make the balloon larger, then hold the balloon over the hotplate." The definition of principles as action - guiding statements has been used here.

Teaching

When referring to teaching, the notion of principles as stating the relationship between phenomena presupposes a behavioral model of the teaching act. The teaching act is defined here as consisting of three phenomena: (1) objective, (2) input of data, and (3) output of teacher response. The definition of teaching is adapted from two sources. The first is the "drive - cue - response - reinforcement" model suggested by Neal Miller.²⁶ The usefulness of the Miller behavioral model in analyzing classroom behavior and modifying teacher behavior has been discussed by McDonald²² and Gage.¹¹ The second source is systems theory,¹² which was utilized by Ryans³⁴ in his model of the teacher as an information processing system. The model of the teaching act is pictured in Figure 1, Appendix C.

Teaching Principles

Teaching principles are viewed here as strategy rules used in the decision making process. The strategy rules describe the behavior a teacher should display if he wants to accomplish a specific objective, or objectives, with children who are exhibiting a particular type of behavior.

A person's utilization of teaching principles, or of any principle for that matter, can only be inferred. An observer in a classroom can identify with acceptable reliability the inputs, the outputs, and the objectives. He cannot identify the reason a teacher exhibited an output: even the teacher may not be able to state the reason. The observer can only infer that the teacher exhibited the output because the teacher applied a particular principle which states the relationship between the observed input and output, and objectives. If, for example, a child is given an air-filled balloon, a hotplate, and the direction to make the balloon bigger, and the child immediately responds by placing the balloon in a position over the hotplate,

the observer would infer that the child applied the principle about air expanding when it is warm.

The reliability of an inference about the teacher's application of a particular principle depends upon the number of cases observed where the input, objective, and output are of the same type, but not identical. If, for example, a closed and dented can was substituted for the air-filled balloon and the child still responded by placing the can on the hotplate, the teacher would feel more security in concluding that the child applied the principle about air and heat. When an observer notes that each time children in a class misbehave and the teacher yells, the observer can feel some security in concluding that the teacher is applying a principle of using maximum force for all offenses.

Classroom Management Teaching Principles

Classroom management teaching principles are action-guiding statements which relate the behavior of children, desired social and instructional outcomes, and teacher classroom management behavior. Before these principles can be derived the task of classroom management must be specified.

A teacher's primary classroom assignment is the developing of children's knowledges, skills, attitudes, and mental and physical health. Because elementary teachers customarily carry-out their primary assignments in group situations their effectiveness in controlling children's social behavior directly affects their accomplishment of the primary assignment. The controlling of children's social behavior is termed classroom management. Classroom management is viewed as a facilitative function; the purpose of which is to maximize the teachers' accomplishment of the primary assignment, the development of children's knowledges, skills, attitudes, and mental and physical health. The final goal of classroom management is pupil learning while the intermediate goal is the maintenance of that type of social behavior which will most facilitate the children's attainment of the final goal. The intermediate goals are the management objectives.

Classroom management teaching principles are defined as action-guiding statements describing the appropriate type of teacher behavior for a given type of children's behavior when the teacher desires to attain certain management outcomes. Put another way, classroom management teaching principles describe how the teacher should behave in order to get children to behave the way the teacher knows they must behave if they are to attain the instructional objectives of the present lesson.

PROCEDURES

The teaching principles derived for classroom management should meet three criteria. First, the teaching principles should be the

most crucial principles, as the time available for instructing student teachers is limited. Students should be taught only those principles which authorities in the field think they must know. Second, the principle statements should have some reliability. To be reliable the principles must represent more than the limited observations of one person. The principles should be the result of experimentation on the relationship between variables. Third, students should be taught only those principles which they do not already know when they enter the teacher training program.

The three criteria were met by using a three-step procedure. First, the educational literature on classroom management and discipline was reviewed in order to identify the classroom management teaching principles which authorities in education list as important principles for student teachers to know. Second, the social psychological literature was reviewed in order to identify those principles listed by educational authorities which have been shown in psychological experimentation to have acceptable reliability. Third, in order to determine student teachers' proficiency in applying classroom management teaching principles, a situational film test based upon the classroom management teaching principles was constructed and administered to one-hundred and ninety-two teacher education students.

Review of the Educational Literature

Barnes,³ after studying the behavior of seventy-one elementary teachers, concluded that teachers need help in interpreting the behavior problems of elementary age children. Kolson¹⁸ identified two problems of student teachers: (1) paying attention to class reaction so they can immediately pull back a deviating child; and, (2) failing to give directions in a manner that commands obedience. Bond⁶ identified the common quality of 855 student teachers who were rated superior in discipline. The superior student teachers were able to win the cooperation and understanding of pupils through personal contact. The ability was not dependent upon health, appearance, scholarship, or planning ability. Irish¹⁷ concluded, after studying children's reactions to student teachers, that student teachers should: (1) not lose control in stress situations; (2) be responsible for maintaining standards; and (3) avoid unwarranted punishment. Shumsky and Murray,³⁵ after studying student teachers' attitudes about discipline, concluded that student teachers should learn to be effective leaders. An effective leader is one who can be an authority without being authoritarian, and one who does not become rigid and punitive when under stress. Kounin and Gump,¹⁹ from their studies of classroom management, concluded that clarity and firmness, not roughness, is what gets conformance. Ojemann³⁰ states that good discipline is based upon an understanding of the social environment of the classroom. The teacher must recognize children's needs and help to channel them into activities that make cooperation possible.

The Minnesota Association of Secondary School Principals²⁷ published the following "Tips on Classroom Control:"

- (1) Establish classroom regulations early.
- (2) Don't make a major issue of trivial offenses.
- (3) Don't accept impertinence.
- (4) Avoid group punishment for mistakes of individuals.

Przychodzin³² suggests the following classroom management procedures:

- (1) Inform pupils what is expected of them.
- (2) Be firm and consistent.
- (3) Be courteous and fair.
- (4) Avoid using threats.
- (5) Be active, not passive, when trouble is developing.

Brown⁷ suggests procedures for developing self-discipline:

"There is a readiness for learning self-discipline just as there is a reading readiness and an arithmetic readiness. If we desire the child to develop the ability for self-discipline and to utilize this ability in what we term democratic living in the classroom, we must structure conditions which provide the optimal potentialities for developing this ability. This implies a need in the beginning of the school year for a classroom climate where the teacher clearly establishes the limits of pupil behavior.

Anderson¹ suggests that a teacher establish mutually meaningful social standards and routines with the class. After the standards have been established, children will need daily practice in meeting them. Morse²⁸ notes two steps in establishing healthy discipline in a classroom:

- (1) Diagnosis -- determining what is the matter.
- (2) Disciplinary skills -- determining what to do.

Morse notes that the latter step is generally neglected in teacher training with the result that too many classroom teachers often practice old style moralizing, which is most ineffective.

Ausubel² defines democratic discipline as:

"rational, non-arbitrary, and bilateral as possible. It provides explanations, permits discussion, and invites the participation of children in the setting of standards whenever they are qualified to do so. Above all, it implies respect for the individual and avoids exaggerated emphasis on status differences and barriers between free communication, hence, it repudiates harsh, abusive, and vindictive forms of punishment, and the use of sarcasm, ridicule, and intimidation."

In a study of the categorizations of teaching-learning behaviors which elementary teachers make when they think about facilitating the learning of pupils in the classroom, Miller, Baker, and Wiley²⁵ identified behaviors which most teachers agreed facilitated the maintaining of control and order.

- (1) "This teacher goes over rules and regulations briefly the first thing in the morning, before recess, and before lunch time."
- (2) "This teacher leaves the list of rules on the board for one day after the children and she decided upon them the first day of school. After this she says it is not necessary to keep them written."
- (3) "This teacher believes that even in the lower grades it is important that children have a part in making classroom rules because they must learn to live with one another."

The educational literature identifies two areas of classroom management where most beginning and experienced teachers have difficulty. (1) Teachers have trouble establishing acceptable standards of pupil behavior. (2) Teachers have difficulty responding to children's misbehavior with the firmness, courtesy, and rationality implied in Ausubel's notion of democratic discipline.

The information provided in the literature about the two areas of classroom management is sufficiently complete to write a tentative teaching principle for each area. The two principles might be phrased as follows:

- (1) If acceptable standards of pupil behavior have not been established and the teacher wants the children to behave according to a specified set of standards then the teacher should use a strategy for establishing acceptable standards.
- (2) If a teacher wants the children to behave in a specified manner and a pupil or pupils misbehaves then the teacher should use a disciplinary procedure for stopping the misbehavior which is firm, courteous, and rational.

Review of the Social Psychology Literature

The notions of social standards and discipline in the educational literature have a parallel in social psychology. The term social standard is roughly synonymous with the term norm. The term discipline is roughly synonymous with the term power.

Power. According to Thibaut and Kelly,³⁶⁻¹²⁴ an individual's power over another derives from the latter's being dependent upon him. Person A has power over person B when, by varying his behavior, he can affect the quality of B's outcomes. The dependency from which power is derived comes from a number of sources. Wilensky³⁷ found in a study of the staff

expert in labor unions that the replaceability of the expert's skill is an important factor in determining the amount of influence he will have on decision making in the union. His power is increased to the degree that his skill and experience are not replaceable. Expertness also comes from performance on a task. An experiment by Mausner²³ showed that a subject's judgments in a perceptual task were influenced more by a partner who had been previously successful on a similar task than by one who had been unsuccessful. Studies by Hurwitz, Zaner, and Hymovitch¹⁶ and Cohen⁸ found a relationship between power and social status. Person A has power over Person B by virtue of the fact that Person B wishes to maintain a relationship with Person A. The holder of superior power can determine the course of a social interaction. Thibaut and Kelley³⁶⁻¹²⁵ note that power can be self-defeating if it is over-used. If Person A, possessing superior power, makes too many demands upon Person B, holder of lesser power, then Person A soon loses his ability to make further behavior changes in Person B. According to Blau, persons of lesser power may even form coalitions as a means of increasing their power.

Norms. Although the concept of norm is central in social psychology, there has been much confusion and ambiguity in the use of the term. Rommetveit³³ and Thibaut and Kelley³⁶⁻¹⁴⁷ define a norm as a behavioral rule that is accepted to some degree by most members of a group. The members feel some obligation to adhere to the behavioral rule, so it introduces a certain amount of regularity or predictability into their social interaction. Homans¹⁵ defines a norm as

"An idea in the minds of the members of a group, an idea that can be put in the form of a statement specifying what the members or other men should do, ought to do, are expected to do, under given circumstances. . . . A statement of the kind described is a norm if any departure of real behavior from the norm is followed by some punishment."

Norms are functionally valuable to social relationships because they reduce the necessity for the exercise of direct, informal, and personal influence. Thibaut and Kelley³⁶⁻¹⁴⁷ state that "Norms provide a means of controlling behavior without entailing the costs, uncertainties, resistances, conflicts, and power losses involved in the untrained ad hoc use of impersonal power. Wist and Lloyd,³⁸ in a study of life insurance agents, found that low-power members preferred structured normative procedures to more informal and spontaneous procedures.

Useless argument and uncertainty in social relationships can be substantially reduced by agreements that enable the members to run off their most frequent interaction sequences according to automatic routines, without moment-by-moment decision making. Green¹⁴ comments on this point, "What an utter chaos human life would be -- it could not endure -- if everyday we had to settle by family debate or authoritarian decision how many meals we would eat this day, at what hour

of the day and night." In a similar vein MacIver and Page²¹ write of norms, "Without them the burden of decision would be intolerable and the vagaries of conduct utterly distracting." Norms reduce the necessity of invoking power. According to Murray,²⁹ the feeling of dependence is something most people would rather avoid.

The more a group has accepted and stabilized the norms, the more cohesive the group; that is, the more friendship ties there are within the group, and the more active the process of communication going on within the group.⁹ There is less aggression.³¹ In a summary of research on group cohesiveness, French¹⁰ found that the more cohesive groups work more vigorously and effectively toward group goals than do the groups of low cohesiveness. Berkowitz,⁴ in a study of college students, found that in cohesive groups subjects will increase their output if the standard is for high production and decrease their output if the standard is for low production.

Merei²⁴ found that among children four to eleven years old norms rendered social interactions less susceptible to disruption by external forces. Once norms had been developed, children could exercise leadership only by adhering to the norms.

The literature in social psychology supports the "If . . . , Then . . ." relationships of the teaching principles derived from the literature in education.

Principle I. "If acceptable standards of pupil behavior have not been established and the teacher wants the children to behave according to a specified set of standards then the teacher should use a strategy for establishing acceptable standards."

Standards, like norms, are regularized, predictable forms of social behavior which members feel some obligation to follow. Norms are specific to an activity, and not generalized notions of "be good." In groups where a set of norms have been accepted as functional, members are less aggressive, work more vigorously and effectively toward group goals, and are less susceptible to disruption by external forces than they are in groups where a set of norms has not been established as functional. As classroom management is viewed as a function which facilitates the attainment of instructional goals, the teacher who can establish acceptable standards of pupil behavior -- acceptable both to the children and to the teacher -- will have more chance of achieving the desired instructional goals than the teacher who cannot establish acceptable standards.

Principle II. "If the teacher wants children to behave in a specified manner, and a pupil misbehaves, then the teacher should use a procedure for stopping the misbehavior which is firm, courteous, and rational."

By virtue of his position in a classroom the teacher has superior

power. The unrestrained ad hoc use of that power will create insecurities and resistances among the children which can adversely affect both the subsequent use of the power and the attainment of learning objectives. While the administrative organization of schools keeps pupils in a relatively powerless position, they can nonetheless "get the teacher" who over-uses power by forming coalitions, creating irritating disturbances, and by an intellectual sit-down strike. The teacher who over-uses power will eventually suffer power losses. To be an effective classroom manager the teacher must learn to exercise a minimal amount of power where it will accomplish the most, and entail the least resistance and uncertainty.

Statement of Two Classroom Management Teaching Principles

For the purposes of the present instructional package the two classroom management teaching principles will be stated as follows:

Principle I

If an activity is about to begin where standards of social behavior have either not been established or have not been previously followed, and the teacher desires to achieve specified management outcomes, then the teacher should use a social standard establishment strategy.

Principle II

If in an ongoing activity a child, or children, behave in a way which violates the management outcomes, and the teacher decides to attain the management outcomes, then the teacher should use a desist strategy which will attain the management outcomes with the least possible disruption of the instructional objectives.

A social standard establishment strategy is a teaching procedure for specifying the behavior which children should exhibit during a particular activity. During a spelling test, for example, children should speak only if they raise their hand and are called upon by the teacher. During a construction period children may speak in a quiet voice. Different social behavior is suitable for different activities. The verbal statement of the appropriate social behavior is the social standard. The social standard might be established directly by the teacher telling the children what is expected of them, or the standard might be established indirectly by the teacher leading a discussion about the appropriate behavior for a specified activity.

The term desist strategy refers to the teacher's communicating to a child that the child should cease his present mode of behavior. The term is adapted from the term desist techniques, suggested by Kounin and Gump.²⁰ The communication might be accomplished by the statement,

"Stop that!" by a glance, or by walking close to the child. A desist strategy is considered to be any movement of the teacher which is intended to communicate to a child that the child should cease his behavior. Desist strategies contain two relevant dimensions: (1) the communication may be private or public, i.e., intended either to be noticed only by the misbehaving child or by many members of the class; and (2) the communication may represent various levels of force, e.g., a glance represents less force than the verbal statement, "Stop that!" (See Appendix A for further details).

Testing Students Proficiency at Applying the Principles

Designing the Test. The model for testing a subject's proficiency in applying the two teaching principles is shown in Figure Two, Appendix D. The input was designed by identifying situations which fit the If - portion of a classroom management teaching principle. The internal portion of the input is presented to subjects in a written statement. The external portion of the input is presented in a short motion picture sequence where the camera angle creates the impression that the viewer is the teacher.

The output was designed by writing a description of the type of behavior exhibited by a teacher who had followed the specified classroom management teaching principle with a given input. A desist strategy would be classified by type, e.g., private-low power. A type of desist strategy might include many different specific responses. (For further details see Appendix A).

Administering the Test. One hundred ninety-two students enrolled in educational psychology courses at Oregon State University were tested. The sample was the total enrollment for educational psychology for two terms. The test required forty minutes for administration. The exercise was explained to subjects as a test of the responses of pre-service teachers to typical classroom situations.

Results of the Test. The results of the test indicate that the students in the sample lacked proficiency in applying the two classroom management teaching principles.

Table I

Performance of Student Teachers on A Situational Film Test of Two Classroom Management Teaching Principles. (N=192)

<u>Situation</u>	<u>Principle</u>	<u>Attained Criterion Performance*</u>	
1	I	23	11.98%
2	II	64	33.33%
3	II	18	9.38%
4	II	119	61.98%

*Criterion performance attained by describing a teaching procedure like those listed in the criteria statements. (See Appendix B).

Only 11.98% of subjects used a social standard establishment strategy when faced with a situation where children were about to embark on an activity where some degree of misbehavior could be expected. In two situations where a minor disturbance arises only (1) 33.33% and (2) 9.38% used the "private-low power desist strategy" called for when applying Principle II. In a situation where a major disturbance arises 61.98% used the "public-high power desist strategy" called for when applying Principle II.

CONCLUSIONS

The two classroom management teaching principles should be included in an instructional program for they met the three criteria specified earlier: (1) the classroom behavior covered by the teaching principle is identified by the educational literature as areas where most teachers have difficulty; (2) the literature in social psychology supports the reliability of the teaching principles; and, (3) a representative sampling of student teachers lacked proficiency in applying the teaching principles.

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APPENDIX A

Examples of Desist Strategies

Level of Force Dimension

<u>Level of Force</u>	<u>Definition</u>	<u>Desist Strategy</u>
Low	Non-verbal, a signal or movement	A glance, shaking of head, moving over to child unobtrusively in the instructional activity
Moderate	Verbal, conversational, no coercion	Appeal to child to act reasonably, remove disturbing objects, command the child to stop
High	Verbal and non-verbal, changed voice pitch, may use coercion	Raise voice and command child to stop, remove the child from group, threaten, punish, physical restrain.

Public-Private Dimension

<u>Type</u>	<u>Definition</u>	<u>Desist Strategies</u>
Public	Intended to be noticed by most of the children in a class	Acting and/or speaking in a way which commands attention.
Private	Intended to be noticed only by small groups of children	Using unobtrusive actions or moving close to a child when speaking

Desist Strategies in Two Dimensions:

Level of Force and Public-Private

1) Glance

Low Level - Private (Glance)

Teacher shakes head so only one or two other children notice the action.

Low Level-Public (Glance)

Teacher shakes head dramatically so most of-class notices the action.

Appendix A (cont.)

2) Appeal

Moderate Level - Private (Appeal)

Teacher moves close to child, asks child to act reasonably, and uses voice and manner so only one or two other children notice the action.

Moderate Level - Public (Appeal)

Teacher asks children to act reasonably in a manner which most of the class notices.

3) Threat

High Level - Private (Threat)

Teacher moves close to child, tells what will happen if misbehavior continues, and uses voice and manner so only one or two other children notice the action.

High Level - Public (Threat)

Teacher tells what will happen if misbehavior continues, uses a loud and commanding voice which most of the class notices.

APPENDIX B

A Description of the Situational Film Test Used to Determine Subject's Proficiency at Applying Two Classroom Management Teaching Principles*

The situational film test consists of four parts; (1) written descriptions of the background for a situation, (2) a film showing the situation, (3) an answer sheet, and (4) criteria statements for scoring subjects response.

Written Descriptions

Subjects read the background description for each situation prior to viewing the situation on film. The written descriptions provide the internal input. The written descriptions are shown.

Situation - 1

Every year, the school district sponsors a science fair, which is held in the school gymnasium. Student-made projects are displayed and awards are given to the best entrants as judged by a panel of teachers.

You have decided to take the class to the fair this morning. You decided that since the children have never been to a science fair, you would discuss, in detail, the displays which you want the children to particularly notice (e.g. those on weather instruments). As the scene opens, you have just finished this discussion. You are standing at the front of the room. The children are listening to you.

Situation - 2

This is a typical reading lesson, similar to many which have conducted so far this year. Seated in front of you is a small group of five youngsters who are reading their texts. You are situated with your back against the chalkboard on the right side of the room looking toward the window. The children are grouped in a semi-circle before you. Others in the class are working at their seats.

-
- * Principle I: If an activity is about to begin where standards of social behavior have either not been established or have not been followed previously, and the teacher desires to achieve specified management outcomes, then the teacher should use a social standard establishment strategy.

Principle II: If in an ongoing activity a child, or children, behave in a way which violates the management outcomes, and the teacher desires to attain the management outcomes, then the teacher should use a desist strategy which will attain the management outcomes with the least possible disruption of the instructional objectives.

Appendix B (cont.)

Situation - 3

The class is engaged in a general study period. They have been instructed to work individually on assigned topics. The class has been quietly studying about ten minutes at their seats and you are at the front of the room.

Situation - 4

It is now time to dismiss the children from school. An hour ago the principal came to the classroom. He was unhappy about the way the children in the school have been leaving their classrooms when they are dismissed at the end of the day. The principal read a list of rules to the children. He had the children copy each rule into their notebook as he read it. There was no discussion of the rules. The principal reminded the teacher that, if need be, the children could be kept after school as all live in the neighborhood. The school has a policy that children may be kept after school for 30 minutes, the parents should be notified by the school secretary. No child should be kept after school longer than one hour.

As the film begins you have just dismissed the children.

Motion Picture Film

After reading the background description subjects reviewed a short motion picture of the situation. The motion picture provided the external input. The camera angle is from the location of the teacher so that the viewer sees what the teacher would see. The viewer is asked to be the teacher. Descriptions of the four film clips are given.

Situation - 1

A long shot from the front of the classroom. The children are seated at their desks looking expectantly at the camera. The film runs for 15 seconds.

Situation - 2

A medium shot from the front of the room. Five children are seated in a semi-circle in the foreground. The remainder of the class is seated at three desks in the background. The five children are looking at books located in their laps. The camera pans from left to right and back again. On the first pan a boy nudges the girl next to him with his elbow. On the return pan the boy gently kicks the girl. The film runs for 20 seconds.

Situation - 3

A long shot from the front of the room. The children are seated at their desks and appear to be studying. After 5 seconds one boy turns to his neighbor and begins to talk. The rising murmur of their voices can be heard. The scene continues for another 15 seconds. The film runs for 20 seconds in total.

Appendix B (cont.)

Situation - 4

A long shot from the front of the room. As the scene opens the children are just rising from their desks. They rush toward the rear of the room in a disorderly fashion. The noise level rises. As the scene ends they are pushing and shoving each other out the door and screaming. The film runs for 15 seconds.

Appendix B (cont.)

After viewing the filmed situation subjects were asked to write what they would now do if they were the teacher. They were asked to describe their immediate response and not what they would do in five or ten minutes, or the next day. The examiner took about five minutes to discuss the response format. The answer sheet for one situation is shown.

Situation - 1

When _____

What _____

How _____

Where _____

Problem _____

Criteria Statements

A criteria statement was prepared for each situation. The criteria statement described the teacher behaviors which would be appropriate for a situation if one of the classroom management teaching principles were applied. The criteria statements are shown.

Situation - 1

Principle: I

Appropriate teacher behavior: Establish social standards for the science fair.

Situation - 2

Principle: II

Appropriate teacher behavior: Use Private-Low Level desist strategy such as touch the boy's knees or nod your head.

Situation - 3

Principle: II

Appropriate teacher behavior: Use Private-Low Level desist strategy such as nod your head or walk over to the boys and stand beside their desks and possibly touch one or both gently on the shoulder.

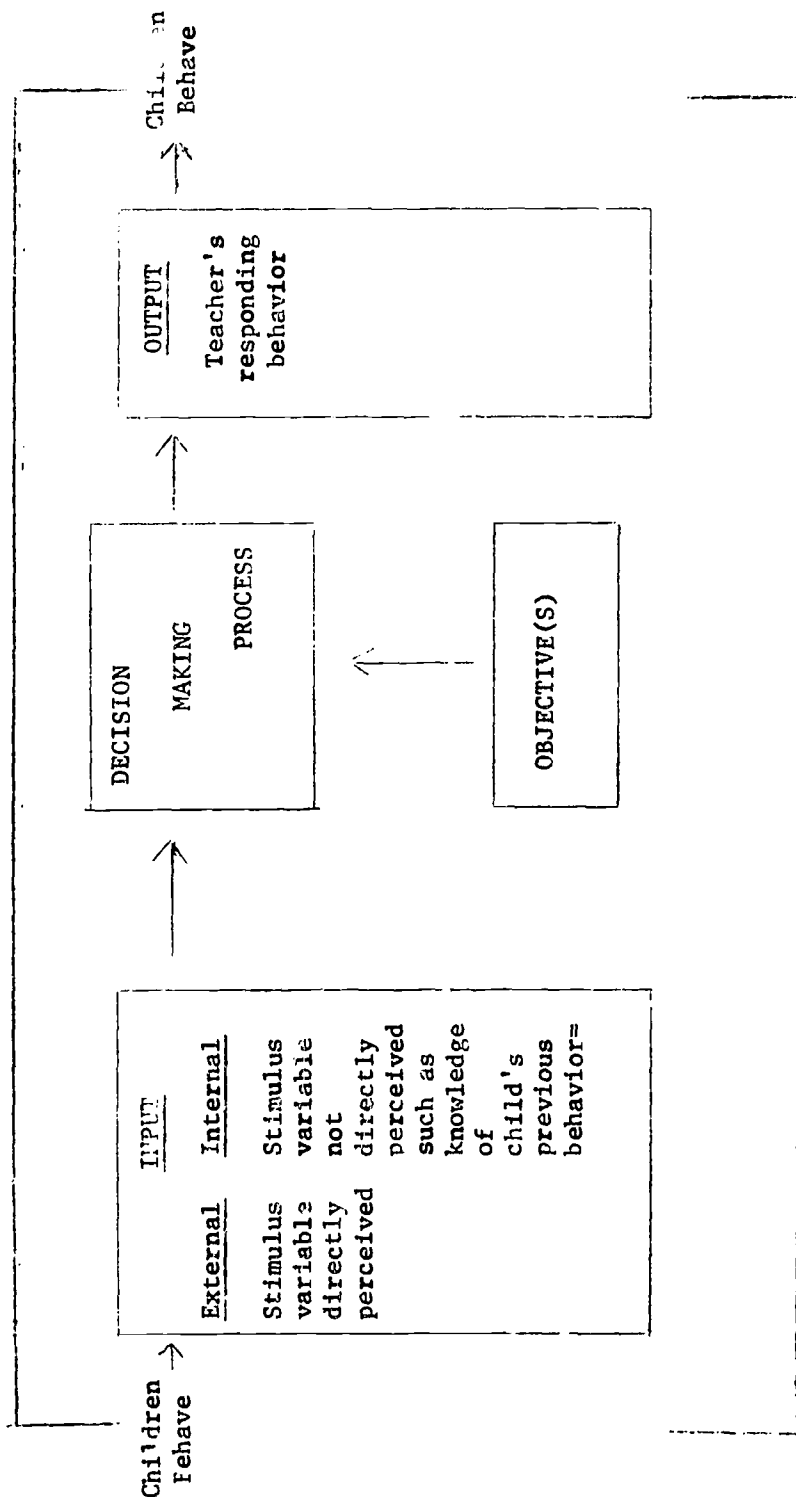
Situation - 4

Principle: II

Appropriate teacher behavior: Use Public-High Level desist strategy to include raising your voice and moving toward the group. (Must include both actions.)

APPENDIX C

Figure 1
The Teaching Act



The Teacher

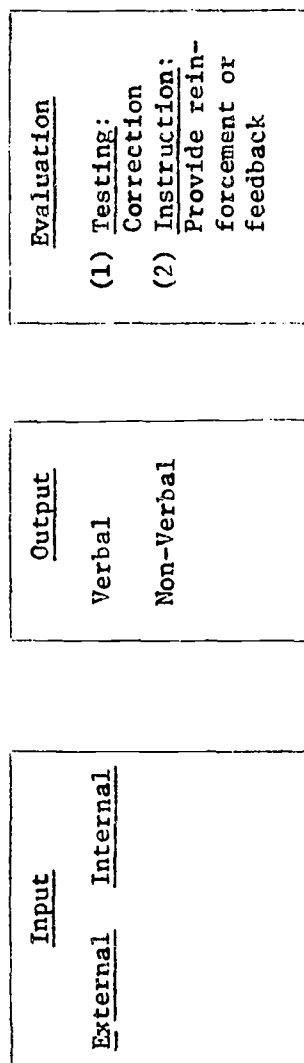
Illustration A.

Figure 2

Instructional System Model
Teacher Training: Testing or Instruction

Alternate Goals

- (1) Testing: Determine S's proficiency in applying teaching principles
- (2) Instruction: Increase S's proficiency in applying teaching principles



INPUT

- (1) External. A stimulus situation is presented both in writing and on film. The stimulus situation focuses the S's attention on certain variables of classroom behavior by exaggerating the behavior. The exaggeration depends upon the teaching principles being taught or tested.
- (2) Internal. The S has accumulated knowledge relevant to the stimulus situation: Knowledge of the behavior of the class or of specific children in previous stimulus situations or as reported in written reports. The S is also told the objectives of the activity wherein the stimulus situation occurs.

OUTPUT

- (1) Verbal. The S describes in writing or by speaking how he would behave with the input given.
- (2) Non-Verbal. The S acts out his behavior.

EVALUATION

- (1) Testing. The S's verbal or non-verbal response is compared with a criteria to determine the correctness of the response.
- (2) Instruction. The S receives a stimulus which: (1) tells him whether he is right or wrong (reinforcement) or (2) shows him the pupil behavior which would probably follow the response (feedback).

Appendix B

Classroom Management

Instructor Manual

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Classroom Management
Instructor Manual**

March 1969

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

INTRODUCTION

I. Brief History of Research and Development

The new "low-cost" simulation packages are to serve teacher education institutions that are faced with the problem of providing practical experiences for student teachers. More specifically, these new materials are designed to solve the growing problem of placing students in schools or with agencies serving children and youth in areas surrounding the teacher education institutions without interfering with the ongoing program of education for the classes or groups being observed; and to allow the supervisor to be in the situation with each student, pointing out important behaviors and features of instructional practices.

Simulation as an instructional medium in teacher education has been under development at TEACHING RESEARCH since 1961. In that year, Dr. Bert Y. Kersh, funded under NDEA Title VII, built a simulation facility and initiated the development of a variety of simulated classroom situations. These situations were simulated through the medium of sound motion pictures and printed materials, and were called "Mr. Land's Sixth Grade". These prototype materials have been used to train over one thousand college students, mainly in conjunction with research activities.

"Mr. Land's Sixth Grade" was limited as an instructional vehicle since it required a simulation facility equipped with several projectors, a complex electronic control system, and a rear projection screen. Further, only one student could be trained at a time, and an experienced teacher was required to act as the instructor. These limitations led to the development of the new "low-cost" simulation packages that could be used in a wide variety of circumstances. The new "low-cost" simulation packages have been adapted for Individualized Laboratory (Tutorial) Instruction; Conventional Classroom Instruction, and Self-Instruction. These materials have been developed to meet the limitations of "Mr. Land's Sixth Grade". The new materials also take into account previous research concerning size of image, mode of feedback, mode of response, motion in image, and the effects of promptings that has been carried on at Teaching Research in recent years (Kersh, 1963; 1965; Twalker, 1966).

The main advantage of the new low-cost simulation materials is that they bridge the gap between textbook learning and the operational real-life situation. Usually, students are bombarded with principles of classroom management and yet given little opportunity to exercise or apply these principles in realistic circumstances. Under these conditions, students may be very able to verbalize the principles and pass tests which ask for statements of the principles as taught. A problem is that students have not had sufficient opportunity to practice or exercise the application of the

participate in a variety of situations. In such cases, students are not able to transfer knowledge gained from the instructional situation to the real-life situations. Simulation is a valuable technique for increasing the probability of this transfer occurring. In essence, then, the simulation technique is based on the old adage that "experience is the best teacher". College classes where methods or principles are discussed might be expected to help the student teacher talk about teaching, but only classroom experience (simulated or real) could train a student to teach. Classroom simulation is a technique that allows a prospective student teacher to gain the benefits of direct "experience" and at the same time, have the advantage of discussions about the experience with skilled instructors.

"Bench Marks" and Simulation Training.

It is intended that the simulation materials provide the student and instructor with "bench marks" for further discussion and professional growth. That is, various teaching strategies dealing with classroom management and control are shown. These strategies serve as a foundation upon which students can develop and build their own individual teaching skills. It is helpful to think of these teacher strategies as "bench marks" -- they serve as a standard for comparison. These "bench marks" reflect current educational practices and thinking but do not necessarily provide the final word. The student will find the simulation experiences valuable if he can test the feasibility of the "bench mark" in terms of his own behavior and philosophy of instruction.

Systematic Practice and Simulation Training

By providing opportunities for systematic practice in a simulated classroom setting, it is intended that the student will practice the discrimination of cues which signal problems requiring immediate attention and practice the management and instructional strategies without fear of censure or embarrassment. Through systematic practice in a simulated classroom, a student learns how to fill the decision-making role of the teacher in the classroom by participating in a comparable role in a simulated situation. In brief, instructional simulation forces the student to focus on a situation and devise different modes of responding. Simulation offers the student an opportunity:

- 1) to build and to practice his own strategies of searching for cues that signal a decision-making process on his part;
- 2) to test hypotheses he has about how to respond to these problems; and
- 3) to change his behavior in view of the feedback he receives.

"Concrete Referents" and Simulation Training.

It is one thing to be told a method or principle but it is another thing to see that method or principle being practiced in an actual classroom setting. Throughout simulation training, concrete referents -- actual classroom situations -- are given to illustrate a concept or principle. Enough examples of classroom situations are shown so that the student can "tag" an abstract concept or principle to actual practice.

II. About The Manual

This manual explains the purposes and procedures for the Classroom Management Instructional Simulation Materials for Teacher Education. It will describe: (1) the purpose of the materials; (2) modes of training and various college classroom applications; (3) administrative considerations; (4) materials required; and (5) student activities and student preparation for the various phases of training.

PURPOSE OF TRAINING

I. Content

The Classroom Management series teach and exercise the student in two widely applicable teaching principles by which elementary teachers might control childrens' social behavior in a way which enables the teachers to devote their maximum effort and time to developing childrens' knowledges, skills, attitudes, and mental and physical health. The procedures used in identifying these principles is reported in Appeldix A of this manual. In summary, it should be noted that as used in this context, teaching principles are thought of as strategy rules used in the decision-making process. They describe the behavior a teacher should display if he wants to accomplish stated objectives with children who are exhibiting a particular behavior. Two teaching principles were chosen to be taught in the Classroom Management sense. They are felt to be crucial principles that are reliable and believed to be important by authorities in the field.

Principle I

If an activity is about to begin where standards of social behavior have either not been established or have not been previously followed, and the teacher desires to achieve specified management outcomes, then the teacher should use a social standard establishment strategy.

Principle II

If in an ongoing activity a child, or children, behave in a way which violatea the management outcomes, and the teacher decides to attain the management outcomes, then the teacher should use a desist strategy which will attain the management outcomes with the least possible disruption of the instructional objectives.

The instructor is encouraged to examine Appendix A in detail for the rationale underlying the teaching of these two principles of classroom management.

II. Audience

The Classroom Management series was designed specifically for college students entering for their first time a teacher preparation program. A typical population for whom the materials were prepared may be found at the Oregon College of Education, where a "junior block" program has been developed. In this program, junior-level college students participate in a number of laboratory experiences with children while receiving instruction in educational psychology and teaching methods. The student has an opportunity to:

- 1) observe children and teachers in a variety of learning activities in all subject matter areas;
- 2) design teaching-learning strategies that may be implemented in simulation experiences, in episode teaching, and in short student teaching experiences;
- 3) evaluate these experiences personally

In this context, the Classroom Management series is supportive of the program, as well as supported or complemented by the program.

III. Objectives

Ideally, after training, the student would be expected to exhibit behaviors in the classroom that are consistent with the two principles taught. That is, if a new activity were about to begin and standards of social behavior have not been previously established or followed, then the student (teacher) would be expected to establish social standards in an acceptable way. Also, if a situation arises where children do not follow management objectives, then the student (teacher) would be expected to use an appropriate desist strategy -- one that would attain the management objectives with the least possible disruption of the instructional objectives. Although these objectives are probably realistic, the present instructional system cannot provide the measurement instruments to assess directly and practically this classroom performance. A requirement of a good instructional system is that the criterion test that is given after instruction reflect accurately the objectives of instruction. Since adequate (and practical) tests to assess classroom performance related to the two principles taught are not available, the stated objectives of the Classroom Management series might better be stated as follows:

Given a number of novel, filmed episodes that represent problematic classroom situations, the student will use a desist strategy that attains stated management objectives with the least possible disruption of the instructional objectives.

Given a verbal statement about a classroom situation that involves a new activity, or one where social standards have not been previously established, and given an accompanying film of the class, the student will use a social standard establishment strategy. He will be permitted to ask other students to role-play the parts of children in the class.

MODES OF TRAINING

I. Synopsis of the Classroom Management Series

The instructional system is divided into two parts:

Phase I introduces students to the training, and teaches the two principles of classroom management to them.

Phase II exercises the student in the application of these principles, and provides an opportunity for the student to evaluate his learning.

The Phase I instructional program uses an integrated set of materials, including a student manual and a film-tape presentation. The film-tape presents a series of classroom episodes to illustrate the principles and concepts being taught.

The Phase II instructional program uses motion pictures integrated with an orientation booklet and student manual. The motion pictures are used to present the simulation episodes filmed from the point of view of the student to which he can react. Both programs are supplemented by class or small group discussion or student-instructor (tutor) discussion either during or after the formal training session.

II. Phase I

The instructional program for Phase I contains five parts.

Part 1. The three major roles of the classroom teacher are presented: instructor, classroom manager, and therapist.

Part 2. Techniques of preparing children for a new activity or for an activity where their social behavior has not been previously satisfactory are presented.

Part 3. and 4. Various teacher strategies for dealing with disruptions in the instructional program are given.

Part 5. Review.

Generally, three modes may be used in Phase I training.

Conventional Classroom Instruction: In this case, the instructor makes use of a carousel slide projector, tape recorder and program synchronizer to present the classroom situations. Each student is provided with a manual in which he may take notes and write his responses to exercises. Class discussion is used to answer questions about an episode or an exercise.

Self-Instruction: Here, a student is provided with a projection system that synchronizes the slides and tapes. Typically, a study carrel or other private area is used. If noise is a factor, earphones may be used. The manual is written so that the student is guided from slide-tape to manual and back again without any outside assistance. When the self-instructional mode is used, it is recommended that opportunity be given regularly for small group discussion. Many of the points raised in Phase I can be profitably discussed. An alternate to this plan would be to provide a tutor that would always be available to answer questions and help students straighten out any difficulties. A schedule could be arranged to have several students studying in a room at one time, always within reach of support and guidance from an assistant or tutor in or near the room.

Small-Group Instruction: In this mode, three to five students could work together with the slide-tape projection system. An advantage to this system is that students have an opportunity to discuss between themselves pertinent points raised by the program. A disadvantage is that it, like the conventional classroom mode, paces every student with the group, not individually.

The specific equipment used, and the learning space arrangements are discussed in a later section of this manual.

III. Phase II

The instructional program for Phase II consists of three parts:

Orientation -- Students have an opportunity to "meet" the children in the simulated class. Also, students learn about the school and the community.

Training -- The student encounters simulated problematic situations in two series (called "days") of twelve problems each.

Evaluation -- A third "day" of simulated situations is reserved for the student to assess himself.

Three modes may be used in Phase II training.

Mode A. Individualized Laboratory (Tutorial) Instruction. The individualized laboratory instruction mode is identical to that employed in the original "Kersh Simulator," a special laboratory facility (See Figure 1). In brief, the instructional procedure which has been developed for instruction with

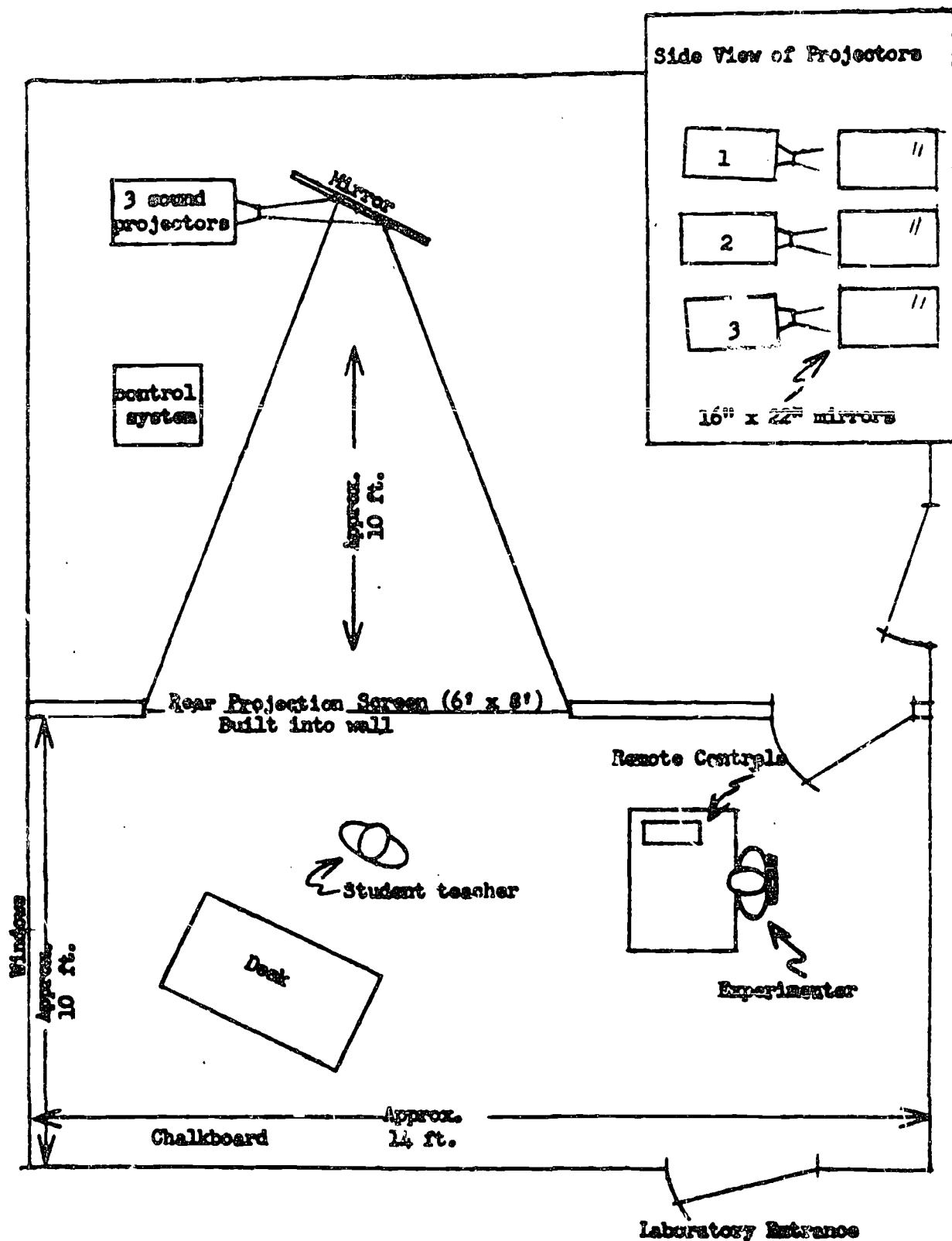


Figure 2. Simulation Facility Located at Oregon College of Education, 1965 Configuration.

the tutorial mode is as follows. First, the student teacher (T) is oriented to the simulation facility and to the procedures.

Then, T is given the instruction in the simulation facility with the projections adjusted to the particular degree of realism desired. The filmed problem sequences of actual classroom situations are presented and T is requested to enact his response to each. Depending upon the reaction of T, the instructor (I) selects and projects one of two or three alternative feedback sequences. In the individualized laboratory instructional mode, the student teacher is "steered" into increasingly more effective response modes by the laboratory instructor who observes, evaluates, and communicates through the selection of "feedback sequences" and through his indirect guidance and discussion. It is believed that this mode is ideally suited to students who may be having some difficulty in the teacher education program, or feel some need for this highly individualized (and intensive) training. Some have remarked that this training is "half-instruction, half-therapy."

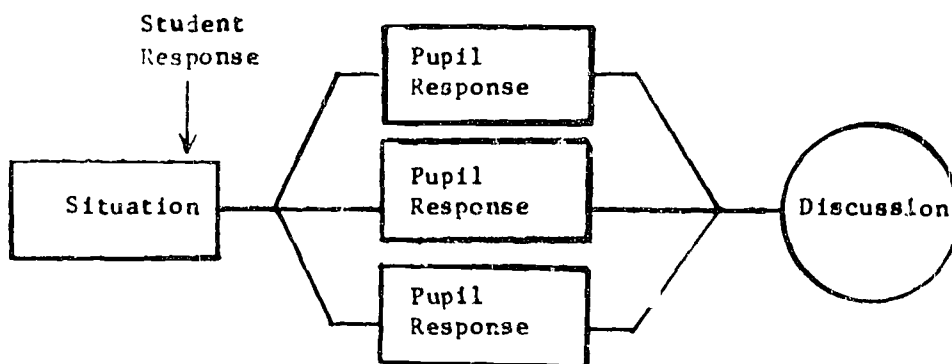


Figure 2. Graphical representation of training in a tutorial mode.

After the instructional phase, T's performance is tested in the simulation facility. Twelve new filmed problem sequences, different from the instructional sequence, constitute a test of transfer. The special laboratory facility that is used in Mode A mirrors the "Classroom Simulation Facility," which was developed and installed in the Teaching Research Laboratory on the Oregon College of Education campus. Briefly, T stands in a position relatively close to a large central projection screen and is observed by the instructor from the side. The large screen allows a life-size visual image to be projected. Appropriate stage props are used to further enhance the illusion of reality. The instructor controls three motion picture projectors remotely, starting and stopping the projectors and switching from one or another as required. An automatic control system keeps the problem of feedback sequences in the proper arrangement.

Mode E. Conventional Classroom (Large Group) Instruction. The classroom simulation materials are also adapted for use in conventional classroom settings. Use of the materials with groups usually precludes the extensive use of student feedback sequences as used in the individualized laboratory mode. However, by eliminating the feedback sequences and substituting demonstrations by a master teacher, so that students may compare their responses with a model, the instructional materials may be used to good advantage in grouped instructional settings. The recommended procedure is as follows. As in the other instructional modes, a problem sequence on film is first shown, but this time to the entire class, using a conventional motion picture projector and screen. The projector is stopped and students are asked to decide what their response would be, writing down their responses if necessary. Next, the classroom instructor conducts a discussion designed to reveal alternative modes of responding to the problem and the explanation for the different responses which the student teachers volunteer. After the classroom instructor is satisfied that the major response alternatives have been revealed and analyzed, he may then start the motion picture projector again and project the model teacher demonstrating his (or her) technique for handling the particular problem and the pupil consequence. Also, the classroom instructor may communicate to the class the "textbook" explanation for the master teacher's behavior. By using the master teacher on film as the standard, the classroom teacher is able to remain neutral as he wishes. The classroom instructor may also choose to disagree with the "textbook" standard and analysis and, in so doing, communicate the important fact that there are no hard and fast rules in teaching!

After the discussion and comparison with the standard master teacher films, the classroom instructor may repeat the process using another problem on film. Depending on the length of the discussion, three to five problem sequences may generally be covered in one class hour. This is a slow process at best and may have a palliating effect if continued for prolonged periods of time. It is generally more effective to utilize only selected problems from the total set of classroom simulation materials and to devote only a portion of the instructional period to them. Obviously, systematic use of the simulation materials in the classroom setting is possible and is perhaps the least expensive way of using the materials. However, it makes it difficult to employ the available materials to full advantage.

An alternate to this technique would involve splitting the class into several groups of four to six students each. One of each team might role-play a response in front of the others while the film is shown, and then discuss the reasons for the particular response. At this point, teams might be called on to report, followed by a general class discussion and the showing of the model teacher response and pupil consequence. A team of instructors and assistants should be available to the teams for help and consultation.

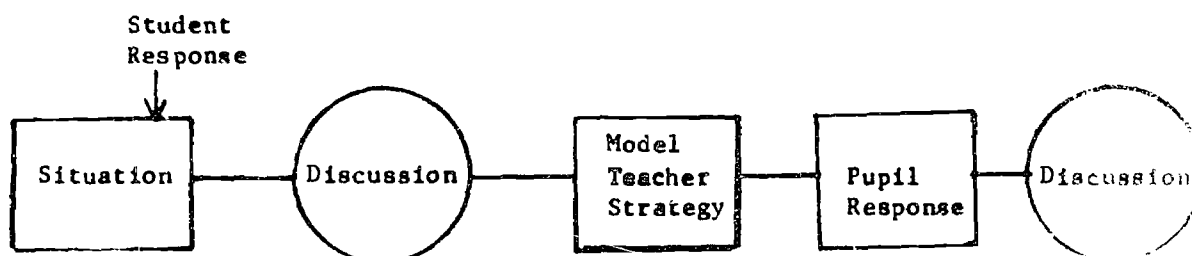


Figure 3. Graphical representation of training in a large group mode

In summary, two possible ways to handle large groups are shown below.

A. Small group clusters

1. Break class into small groups.
2. Show situation (one student may role-play part of teacher in front of others).
3. Small group discussion to arrive at consensus of what the teacher strategy should be.
4. Show model teacher strategy.
5. (Optional) small group discussion to arrive at consensus of what pupil responses might be.
6. Small group discussion to compare group's strategy with that shown.

B. Single large group.

1. Show situation.
2. Group discussion to suggest the teacher strategy or strategies that might be used.
3. Show teacher strategy.
4. (Optional) predict pupil response.
5. Show pupil response.
6. Group discussion to compare suggested teacher strategy or strategies with that shown.

Suggested Discussion Questions

The following questions could be used as a guide for discussion:

A. When responding to the situation

- what would you say? (quotes)
- what would you do? (action)
- where would you respond from?
- when would you respond?
- what was the problem?
- why did you respond as you did?

B. When comparing group response with that shown

- was your response different from the teacher's
- if you answered yes, how was it difficult?
- if you answered yes, do you think the teacher's was a better response? Why or why not?

Mode C. Self-Instruction. When this mode is used, the student works alone in a study carrel situation with the motion pictures and manual. A typical sequence is as follows:

STEP	MATERIAL	STUDENT ACTION
1.	Student Manual	Study the background, the situation, i.e., the time of day, the activity, and other pertinent information.
2.	Classroom Simulation Film	View the situation. Respond when appropriate.
3.	Student Manual	Complete Exercise 1 (what was your response, etc.?).
4.	Classroom Simulation Film	View the probable class response.
5.	Student Manual	Compare your response with the teachers' response. How did it differ? Complete Exercise 2.

As in Phase I, it is important that students be given an opportunity to discuss the episodes with either a tutor or with each other. Alternates for this mode might involve small groups working together.

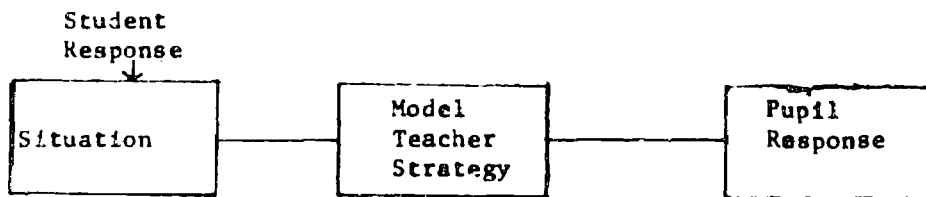


Figure 4. Graphical representation of training in an self-instructional mode.

IV. Desist Strategy Categories Exercised

The table below reveals the number of each episode involving the use of desist strategies for each of the three days. The judgment of the appropriateness of the students response is based on this table. That is, if a particular student's response to a simulated situation corresponds in kinds to the category shown, in terms of power and type of communication used, then his response would be considered appropriate.

		<u>Communication</u>	
		PUBLIC	PRIVATE
<u>Power</u>			
		Day 1:	6,8,11
		Day 2:	8,11
LOW		Day 3:	2,6,8
		Day 1: 2,7,12	4
		Day 2: 1,2,3,4,9,10	
MED.		Day 3: 5,6,10	3,4
		Day 1: 5,10,11	
		Day 2:	
HIGH		Day 3: 9,11	

Norms: Day 1: 1,3,9 Day 2: 6,7,12 Day 3: 1,7,12
No Problem: Day 2: 5

ADMINISTRATIVE CONSIDERATIONS

I. Equipment

Phase I

Either:

- 1) Kodak Carousel 35mm slide projector
- 2) Stereo tape recorder
- 3) Kodak programer (or equivalent to synchronize slide projector and recorder)
- 4) Earphones (optional)

Or:

- 1) Audiscan Model A rear screen film-tape projector (or equivalent 16mm film strip projector that synchronizes film and tape).

Phase II

Either:

- 1) 16mm sound motion picture projector
- 2) Earphones (optional)
- 3) Screen

Or:

- 1) 8mm sound motion picture projector, such as the Technicolor 1000.
- 2) Earphones (optional)
- 3) Screen

II. Learning Space Arrangement

The physical arrangement used in Simulation Training will depend on the mode of instruction used. In general, the following statements can serve as guidelines.

Individual Usage. In our field trials, the learning center concept of an open laboratory has worked very well. In Figure 5 is shown a typical learning space arrangement. Each learning station would be equipped with projection equipment and earphones.

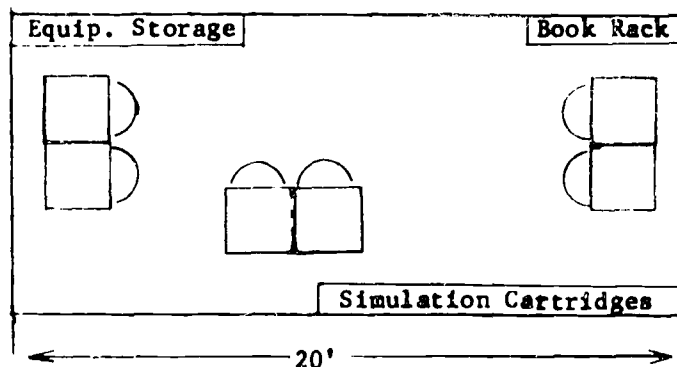


Figure 5. Typical learning center arrangement for individual use of materials.

Small Group Use. When two to six students are grouped for training, somewhat different requirements exist. The facility must furnish a learning space large enough so that the group has an area to themselves. An alternative would be to use a separate, small learning space. The Audiscan projector screen is large enough so five or six students may sit comfortably around a long table, and still see the image (See Figure 6.).

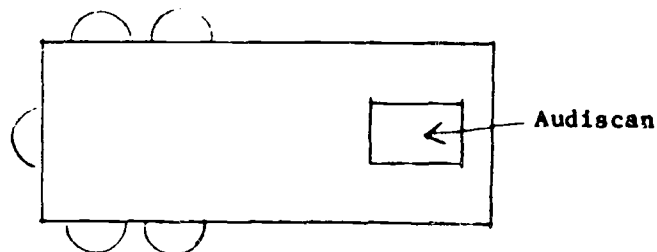


Figure 6. An optimal arrangement for using the Audiscan with small groups.

Large Group Use. When groups over five or six are used, the Audiscan is not appropriate, and other projection equipment should be used. The configuration of the learning space for large groups is usually dictated by existing facility constraints. Ideally, the learning space should be capable of being darkened sufficiently for good image reproduction, but with adequate light for note taking and working in the manuals if they are used.

STUDENT PREPARATION

Some technical skills must be possessed by the student when using the self-instructional mode or small group mode. Depending on the situation, the equipment skills necessary will involve the operation of (1) the Audiscan sound/film projector;

(2) the technicolor 1000 8mm sound motion picture projector;

(3) a 16mm sound film projector; and

(4) a 35mm slide projector, programmer, and tape-recorder system.

It is desirable that a technician familiar with the machines be available to instruct students in the proper use of the machines, and offer assistance in case of special problems. It has been found that the most common problem involves the synchronization of the slides and tapes in Phase I, especially using the Audiscan system.

MATERIALS REQUIRED

I. Phase I

Student Manual

Conventional Classroom Instruction: One per instructor; one per student optional at discretion of instructor.

Self-Instruction: One per instructor; one per student mandatory.

Small Group Instruction: One per instructor; one per student highly recommended.

Film-tape Materials

Conventional Classroom Instruction: 35mm slides and tapes.

Self-Instruction: Audiscan cartridges.

Small Group Instruction: Either Audiscan cartridges or 35mm slides and tapes.

II. Phase II

Student Manual

Individualized Laboratory (Tutorial) Instruction: One per instructor.

Conventional Classroom (Large Group) Instruction: One per instructor; one per student optional at discretion of instructor.

Self-Instruction: One per instructor; one per student.

Orientation Manuals (Reuseable)

All Modes: One per student.

Simulation Films

Individualized Laboratory (Tutorial) Instruction: 16mm motion picture films, 3 reels per day (problems on reel #2, feedback on reels 1 and 3).

Conventional Classroom (Large Group) Instruction: 16mm motion picture films, one reel per day with model teacher strategy and one feedback (pupil consequence) following problem.

Self Instruction: 8mm sound motion picture films in Technicolor 1000 cartridges, same as above.

Appendix C

Classroom Management

Student Manual

Phase I

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Phase I. Classroom Management
Student Manual**

Revised
September 1968

Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon

Errata Sheet

The following corrections to the slide-tape and audio-scan cartridges are needed:

Phase I, part (5C audio-scan, 5D slide-tape), Situations 13 & 14.
The management objectives have been omitted. The objectives are:

- (1) The children will stay in their seats.
- (2) The children will talk only about the instructional topic.
- (3) The children will not interfere with each others participation.

Phase I, part (5C audio-scan, 5D slide-tape) Situations 15 & 16.
The management objectives have been omitted. The objectives are:

- (1) The children will talk in a voice that does not disturb others.
- (2) The children will work only with their group.
- (3) The chairman will be in charge of the materials.

Phase I, part 5C, situation 19, (audio-scan only)

Two frames in situation 19 read "Answer questions 1-3 in the student workbook part 5." The second of these two should read "Answer question 4-6 student workbook part 5."

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INTRODUCTION

An elementary teacher plays three major roles. He is an instructor. He is a therapist. He is a group manager.

In his role as instructor the teacher develops the pupil's knowledge, attitudes, and skills in language, mathematics, social studies, science, music, art, and physical education.

In his role as therapist the teacher is concerned with developing emotionally well-adjusted individuals.

In his role as group manager the teacher is concerned with organizing the children's social behavior in a way which enables him to do a more effective job of instruction and therapy.

As teachers customarily play their roles of instructor and therapist in group situations, they must first be skilled at organizing groups to be effective in those roles. If the teacher must spend seventy-five percent of his time managing a class, he can devote only twenty-five percent of his time to instruction and therapy. Conversely, the teacher who can devote twenty-five percent of his effort to managing can expend the remaining seventy-five percent of his effort to instruction and therapy.

The goal of the Classroom Management Instructional Simulation Materials is to help you become a better classroom manager and thus, we hope, a more effective teacher. These materials are designed to acquaint you, and give you practice with two principles of classroom management. There are however many principles of classroom management. We have selected the two we feel will be most useful to a new teacher. These two principles are:

- 1) the setting of behavior standards for the classroom and
- 2) the privacy and forcefulness of the communication between the teacher and his students.

It is our immediate objective to provide you with an introduction to these principles and then give you an opportunity to apply them.

The specific examples in the slide-tape presentation of teacher behavior should be thought of as "benchmarks." A benchmark, in surveying terms, refers to a reference point from which further measurements may be taken. The specific classroom techniques shown should be considered in that light. They are not the only way to handle the situation. In fact, in most situations you would handle it differently. Yet, both techniques, the ones we show and your own, will illustrate the principle. Remember a geological benchmark is not necessarily gold-plated. Its

usefulness lies in the fact that other points may be established from it. The usefulness of the teaching examples and techniques we show lies in the fact that they may be used as exemplars for comparison. They furnish you with a starting point, a foundation upon which you can develop and build your own individual teaching skills.

In the next few weeks you will be involved in two phases of instruction with the Classroom Management Materials. Phase I will acquaint you with two principles of classroom management. Phase II will give you the opportunity to apply these two principles in simulated classroom situations.

Phase I.

The student is oriented to the two principles of classroom management.

Phase II.

The student is given the chance to practice the two principles of classroom management that he was oriented with in Phase I.

The instructional program for Phase I contains five parts.

- Part 1. The three major roles of the classroom teacher are presented: instructor, classroom manager, and therapist.
- Part 2. The presentation of the techniques of preparing children for a new activity or for an activity where their social behavior has not been previously satisfactory.
- Part 3 and 4. Various teacher strategies for dealing with disruptions in the instructional program.
- Part 5. Review.

You, as a student, should be aware of some of the advantages and disadvantages of using simulation in instruction. It has sometimes been necessary:

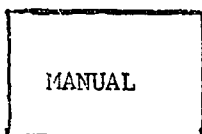
- to stage presentations
- to use less than optimum classroom equipment arrangement for filming purposes.
- to include teacher strategies used to implement the principles that are not always the most desirable.
- to have the situation exaggerated in order to show clearly the desired principle and its implication.

In some places instruction may seem less than adequate. The problems arising from these situations may not have occurred if the instruction had been presented in a different manner.

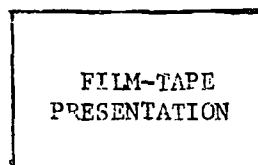
Instructional Procedures

The Phase I instructional program uses an integrated set of materials, including:

(1)



(2)



- Follow the manual carefully. It is written to guide you along each step. The materials are written to be used in sequence.
- The introduction is usually divided into two parts - 1) background information and 2) objectives of the episode and exercises.
- After becoming familiar with the classroom background and the instructional objectives, watch the film-tape presentation.
- The written exercises are designed to give you the opportunity to apply the principle set forth in the instructional objectives.
- Some comments have been prepared to help you evaluate your work.

In review: 1) read the introduction
2) watch and listen to the film-tape
3) complete the exercises
4) evaluate your responses

These materials are designed to be used in an "audio-tutorial" fashion. An audio-tutorial situation has each student working alone, but with immediate assistance available from a tutor or the instructor to answer questions or straighten out any difficulties. If a tutor or the instructor is not available, students may find it helpful to question each other. This could be done with a small group of students working around one Audi-scan machine, but each working in his own manual. Our research has shown the "audio-tutorial" system to be the most effective way of working with Phase I.

PART I

The Three Major Roles

Introduction

The film-tape sequences which follow show two classroom episodes. In each episode the teacher has the same children and the same instructional objectives. The major difference between the episodes is the teacher's use of classroom management procedures. In each episode the teacher's effectiveness in classroom management is directly related to his effectiveness in instruction and therapy. When a teacher uses the more effective classroom management procedures he has the opportunity to do a more effective job of instruction and therapy. As you watch each episode: (1) determine what teacher behavior characterized the role of instructor, therapist, and classroom manager, and (2) determine which episode has the least management time and the most instruction and therapy time.

The objectives of Part One, stated in terms of what you will be able to do after instruction are:

Identify from a series of examples the three roles an elementary teacher plays: instructor, therapist, and group manager.

Identify which episode has the least management time and the most instruction and therapy time.

NOW WATCH THE FILM-TAPE PRESENTATION MARKED PHASE I. CLASSROOM MANAGEMENT, PART 1."

Exercise 1.

In which of the two episodes was Mr. Warren a more effective therapist and instructor. Indicate your answer with a check.

Episode A _____

Episode B _____

In a short paragraph, state why. If you need more room, write on the back of the page.

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 1

Episode A.

Mr. Warren had more time in Episode A to be an effective instructor and therapist. He was able to give Doug a feeling of success by helping him with the number line. He did not have to punish the class for misbehaving. In Episode B, Mr. Warren was less effective as a classroom manager. He spent more time managing in Episode B than he did in Episode A.

NOW CONTINUE WITH EXERCISE 2 BELOW:

Exercise 2

The following ten sentences are descriptions of what Mr. Warren did or quotes of what Mr. Warren said in Episode A, and Episode B, of Part 1. Determine what role Mr. Warren was playing in each description. Indicate your answers by using I to indicate instructor role, T to indicate therapist role, and G to indicate group manager role.

- ___ 1. "How can we indicate two moves in a positive direction?"
- ___ 2. "What did we say about laughing when people make a mistake?"
- ___ 3. The teacher stops the children from laughing at Doug.
- ___ 4. "I couldn't hear you. You were both talking at once."
- ___ 5. "Who can show us on the number line?"
- ___ 6. "You will all stay after school if you can't be quiet."
- ___ 7. "How can we indicate that if we are at six we can go in a negative direction in three steps?"
- ___ 8. (Doug shows embarrassment at giving a wrong answer) "Wouldn't you like to try again, Doug?" (Doug shakes his head) "O.K., Doug. We'll try another time."
- ___ 9. "How did we decide we should indicate when we have an answer during a discussion? Who knows?"
- ___ 10. "that was very good, Doug."

COMPARE YOUR ANSWERS WITH THOSE GIVEN ON THE FOLLOWING PAGE

ANSWERS - EXERCISE 2

1. I	6. G
2. G	7. I
3. G	8. T
4. G	9. G
5. I	10. T

NOW CONTINUE WITH EXERCISE 3 BELOW

Exercise 3.

In a short paragraph, define each of the three roles. What are their major characteristics?

Can the three roles be played simultaneously?

COMPARE YOUR DEFINITIONS WITH ONES GIVEN ON THE FOLLOWING PAGE.

DEFINITIONS EXERCISE 3

In his role as instructor the teacher develops the pupil's knowledge, attitudes, and skills in language, mathematics, social studies, science, music, art, and physical education.

In his role as therapist the teacher is concerned with developing emotionally well-adjusted individuals.

In his role as group manager the teacher is concerned with organizing the children's social behavior in a way which enables him to do a more effective job of instruction and therapy.

A teacher may play all three roles simultaneously. However, in most instances, one role is emphasized.

NOW READ DIRECTIONS BELOW.

Directions.

If you did not answer 8 of the 10 items correctly in Exercise 2. you may wish to recycle through Part 1. You may also wish to recycle just to clarify the procedures that will be used in the subsequent material.

The goal of the next portion of the classroom management materials is to help you learn to play the classroom manager role so effectively that you can devote most of your classroom time and effort to instruction and therapy. In Part 2 you will learn to prepare children for an activity. In Part 3, you will learn to deal effectively with children's misbehavior.

CONTINUE ON TO PART 2 OF THE STUDENT MANUAL ON THE NEXT PAGE.

PART 2

Norm Setting

Introduction

A teacher's effectiveness as a classroom manager depends initially on how well the teacher prepares children for an activity. You will see three situations in Part 2. Each situation will involve Mr. Warren or Mrs. Mason preparing children for different activities. Each situation contains two episodes. One episode will show the teacher's behavior as being more effective in preparing the same group of children for the same activity. You will be asked: (1) to identify the more effective teaching procedure in each situation (2) to identify the common elements of the procedures.

The objective of Part Two, stated in terms of what you will be able to do after instruction, is:

List the characteristics of an effective teaching strategy for achieving desired management objectives.

Effective norm setting can come from either the students or the teacher. Both strategies are used to good advantage in Part Two.

In Part Two, a new term is introduced: management objectives. This simply refers to that behavior a teacher wishes to see exhibited by his pupils so that instruction and therapy may occur.

NOW WATCH THE FILM-TAPE PRESENTATION MARKED "PHASE I. CLASSROOM MANAGEMENT, PART 2".

Exercise 1.

Which teacher strategy was more effective in achieving the desired management objectives in Situation 1? Indicate your answer with a check.

1) Teacher strategy shown in Episode A _____

2) Teacher strategy shown in Episode B _____

In a phrase, state the problem. _____

_____.

What was the desired management objectives? _____

_____.

In the more desirable episode, who set the norms for social behavior?

_____.

In a short paragraph, state why the teacher strategy you selected was the more effective.

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 1

The teacher strategy shown in Episode B was the effective strategy.

The problem was to excuse the children for recess.

The management objective was: when dismissed, the children will walk in an orderly manner.

In Episode A, Mrs. Mason dismissed the children for recess and she disciplined the misbehaving children she managed to apprehend. In Episode B., Mrs. Mason took time to establish, or probably re-establish, the social standards for leaving the room for recess. As the children have caused a disturbance while leaving for recess for the last two days, she had reason to suspect that the children were not following a social standard for leaving for recess. Mrs. Mason had the choice of either establishing social standards before the children were dismissed, or of dismissing the children and then disciplining the children who caused a disturbance. Mrs. Mason likes to use a minimum of discipline so she used a social standard establishment strategy in Episode B. The result was that the children came close to achieving her management objectives and Mrs. Mason did not have to discipline any children.

The students set the norms for social behavior in Episode B.

This analysis is summarized in the figure below:

	EPISODE A	EPISODE B
TEACHING STRATEGY	Dismissed Disciplined misbehaviors	Established (re-established) social standards Dismissed
RESULTING PUPIL BEHAVIOR	Child hurt. Two stayed in for re- cess. General unhappiness	Children left room quickly General happiness

NOW CONTINUE WITH SITUATION 2 ON THE FILM -TAPE PRESENTATION.

Notes on Situation 2, Episode A

List the important characteristics of the teaching strategy you saw in Episode A.

PROCEED WITH EPISODE B ON THE FILM-TAPE PRESENTATION

Notes on Situation 2, Episode B

List the important characteristics of the teaching strategy in Episode B.

NOW GO TO EXERCISE 2 ON THE FOLLOWING PAGE.

Exercise 2

Which teaching strategy was more effective in achieving the desired management objectives in Situation 2? Recall that the objectives were:

- (1) Pupils will talk in a quiet voice.
- (2) Pupils will work only with their assigned group.
- (3) The chairman is in charge of each group.
- (4) Pupils will be responsible for each other's behavior.

Indicate your choice with a check.

- 1) Teaching strategy shown in Episode A _____
- 2) Teaching strategy shown in Episode B _____

In the more desirable episode who set the norms for social behavior?

In a short paragraph, state why the teacher strategy you selected was the more effective.

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 2

The teacher strategy shown in Episode A was the effective strategy.

The problem was to initiate this year's first construction activity.

The management objectives were: (1) speak quietly, (2) stay with group, (3) chairman in charge, and (4) responsible for own behavior. In both episodes Mr. Warren conducted a discussion. In Episode A, the class discussed appropriate social behavior. In Episode B, the class discussed the procedure for constructing the weather instruments. The discussion of construction procedures in Episode B probably helped the children do a better job of constructing the weather instruments. The discussion did not establish the social standards that were appropriate for a construction activity. Because the children had not done construction before, Mr. Warren could expect that the children had no social standards for construction. If he had not taken time to establish social standards, Mr. Warren could expect that the children would not achieve the management objectives, then they would not achieve the instructional outcomes. About half the children in Episode B were doing something other than constructing a weather instrument.

The students set the norms for behavior in Episode A.

This activity is summarized in the figure below:

	EPISODE A	EPISODE B
TEACHING STRATEGY	Established social standards	Discussed procedures for constructing instruments
RESULTING PUPIL BEHAVIORS	Somewhat boring discussion where standards established Achieved management objectives	Somewhat boring discussion of procedures Did not achieve management objectives

NOW CONTINUE WITH SITUATION 3 ON THE FILM-TAPE PRESENTATION.

Management Objectives for Episode B omitted from the slide tape.

- (1) PUPILS WILL SPEAK IN A QUIET VOICE.
- (2) PUPILS WILL AVOID DISTURBING OTHERS.
- (3) PUPILS WILL BE RESPONSIBLE FOR THEIR OWN BEHAVIOR.

Notes on Situation 3, Episode A

List the important characteristics of the strategy you saw being used in Episode A.

PROCEED WITH EPISODE B ON THE FILM-TAPE PRESENTATION.

Notes on Situation 3, Episode B

List the important characteristics of the teacher strategy used in Episode B.

GO TO EXERCISE 3 ON THE FOLLOWING PAGE.

Exercise 3

Which teaching strategy was more effective in achieving the desired management objectives in Situation 3? Recall that the objectives were:

- (1) Pupils will speak in a quiet voice.
- (2) Pupils will avoid disturbing others.
- (3) Pupils will be responsible for their own behavior.

Indicate your choice with a check.

- (1) Teaching strategy shown in Episode A__ _
- (2) Teaching strategy shown in Episode B_____

In the most desirable episode who set the norms for social behavior?

In a short paragraph state why the teacher strategy you selected was the more effective of the two.

COMPARE YOUR WORK WITH THOSE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 3

The teaching strategy Mrs. Mason used in Episode B was more effective in achieving the desired management objectives than was the teaching strategy Mrs. Mason used in Episode A.

The problem was to conduct an individualized reading activity. The management objectives were: (1) speak quietly, (2) avoid disturbing others, (3) responsible for own behavior.

In both episodes Mrs. Mason attempted to establish social standards. She succeeded in Episode B because she was very specific in the way she described how the children should behave. Because words do not always communicate well, Mrs. Mason had the children demonstrate the behavior specified in each written standard. The discussion of courtesy in Episode A was too general to give much direction. The instructional implications of the teaching strategy used in Episode A are that Mrs. Mason would probably abandon the individualized reading program, even with all its advantages. She might rationalize by saying, "I know the program is better, but my children just can't learn to behave properly."

The teacher set the norms for social behavior in Episode B.

This analysis is summarized in the figure below:

	EPISODE A	EPISODE B
TEACHING STRATEGY	Very general procedure for establishing social standards	Specified and demonstrated behavior in establishing social standards
RESULTING PUPIL STRATEGY	Did not achieve management objectives Used discipline after	Achieved management objectives Avoided use of discipline

NOW CONTINUE WITH EXERCISE 4 BELOW.

Exercise 4

What do the more effective teaching strategies in each of the three situations above have in common? List those characteristics below.

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE NEXT PAGE.

COMMENTS - EXERCISE 4

The common element of the more effective teaching strategies are as follows: (1) the teacher, alone or with the students, established the social standards, (2) the teacher tried to make certain the children understood the meaning of each standard, (3) the teacher tried to get the children to understand the value of the standard, and (4) the social standards were specific to one activity, going to recess, the construction period, and the individualized reading period.

NOW READ DIRECTIONS BELOW

Directions

If you did not list at least 3 of the 4 common elements describing the more effective teaching strategies, you may wish to recycle through Part 2.

CONTINUE ON TO PART 3 OF THE STUDENT MANUAL.

PART 3
Dealing with Disruptions

Introduction

A teacher continually faces the problem of coping with disturbances which arise in the classroom. In the situations in Part 3 you will observe one teacher making two different responses to the same disturbance. You will be asked to identify the more effective teacher response to each disturbance. The most effective teacher response will achieve the management objective with less disruption to the instructional program.

The objective of Part Three, stated in terms of what you will be able to do after instruction, is:

Identify from a series of paired episodes the most effective teaching strategy for achieving desired management objectives with less disruption to the instructional program.

In all episodes in Part Three, norms for behavior have been previously set.

NOW WATCH THE FILM-TAPE PRESENTATION MARKED "PHASE I. CLASSROOM MANAGEMENT, PART 3".

Question 1

What teacher response did Mr. Warren use in Episode A?

PROCEED TO EPISODE B ON THE FILM-TAPE PRESENTATION.

Question 2

What teacher response was used in Episode B?

GO TO EXERCISE 1, ON THE FOLLOWING PAGE

Exercise 1

How much did the teacher's response disrupt the instructional program?
(Write none, little, or much in each blank.)

Episode A _____

Episode B _____

Were the management objectives accomplished? (Write yes or no
in each blank).

Episode A _____

Episode B _____

Which teacher response accomplished the management objectives with
the lesser disruption of the instructional program? (Write A or B)

Episode _____

COMPARE YOUR COMMENTS WITH THOSE GIVEN ON THE FOLLOWING PAGE.

ANSWERS - QUESTIONS 1 AND 2

1. Mr. Warren without a word stands beside the two boys to suggest they get back to work.
2. Mr. Warren, standing beside the two boys, vocally tells them to go back to work.

ANSWERS - EXERCISE 1

1. How much did the teacher's response disrupt the instructional program?

Episode A None

Episode B Little

2. Were the management objectives accomplished?

Episode A Yes

Episode B Yes

3. Which teacher response accomplished the management objectives with the lesser disruption of the instructional program?

Episode A

The teacher response Mr. Warren used in Episode A was more effective because it accomplished the management objectives with the lesser disruption of the instructional program. In Episode B three children stopped what they were doing and looked up.

NOW CONTINUE WITH SITUATION 2 ON THE FILM-TAPE PRESENTATION.

Question 3

What teacher response was used in Episode A?

PROCEED TO EPISODE B OF THE FILM-TAPE PRESENTATION.

Question 4

What teacher response was used in Episode B?

GO TO EXERCISE 2 BELOW.

Exercise 2

(1) How much did the teacher's response disrupt the instructional program? (Write none, little, moderate, or much in each blank.)

Episode A _____ Episode B _____

(2) Was the management objective accomplished? (Write yes or no in each blank.)

Episode A _____ Episode B _____

(3) Which teacher response accomplished the management objectives with the lesser disruption of the instructional program. (Write A or B)

Episode _____

COMPARE YOUR WORK WITH THAT GIVEN ON THE FOLLOWING PAGE.

ANSWERS - QUESTIONS 3 AND 4

3. Mr. Warren, before the whole class and in a loud voice, directs the five boys back to their seats.
4. Mr. Warren, only to the five boys and in a quiet voice, directs the boys back to their seats.

ANSWERS - EXERCISE 2

1. How much did the teacher's response disrupt the instructional program?

Episode A Moderate

Episode B None

2. Was the management objective accomplished?

Episode A Yes

Episode B Yes

3. Which teacher response accomplished the management objectives with the lesser disruption of the instructional program?

Episode B

In Episode B none of the children looked up. In Episode A a number of children looked up when they heard Mr. Warren speaking. Some children laughed.

NOW CONTINUE WITH SITUATION 3 ON THE FILM-TAPE PRESENTATION.

Exercise 3

- (1) How much did the teacher's response disrupt the instructional program? (Write none, little, moderate, or much in each blank.)

Episode A _____

Episode B _____

- (2) Were the management objectives accomplished? (Write yes or no in each blank.)

Episode A _____

Episode B _____

- (3) Which teacher response accomplished the management objectives with the lesser disruption of the instructional program? (Write A or B.)

Episode _____

COMPARE YOUR CHOICES WITH THOSE GIVEN ON THE FOLLOWING PAGE.

ANSWERS - EXERCISE 3

- (1) How much did the teacher's response disrupt the instructional program?

Episode A Much

Episode B Little

- (2) Were the management objectives accomplished?

Episode A No

Episode B Yes

- (3) Which teacher response accomplished the management objectives with the lesser disruption of the instructional program?

Episode B

The teacher response Mr. Warren used in Episode B was more effective because it accomplished the management objectives. In Episode A the teacher response caused a lesser disruption of the instructional program, but the eventual disruption resulting from his failure to stop the disruption will probably be greater. If the management objectives are a definition of how the children must behave socially in order to attain their instructional objectives then the teacher must accomplish his management objectives.

NOW READ DIRECTIONS BELOW

Directions

If you did not answer the third item of each exercise correctly, you may wish to recycle through Part 3 again.

CONTINUE ON TO PART 4 OF THE STUDENT MANUAL.

PART 4
Dealing with Disruptions Continued

Introduction

The teacher's responses in Part 3 were intended to communicate to misbehaving children that they should cease their present misbehavior. The teacher's responses were desist strategies. A desist strategy is a procedure by which a teacher communicates to a misbehaving child that the child should cease his present misbehavior. The communication may be public or private and the message communicated may represent various levels of force. (Note that a public desist strategy is a message by the teacher to a misbehaving child or group of children that gain the attention of others. A private desist strategy is a message by the teacher to a misbehaving child or group of children that does not disrupt others.)

In the following four situations you will see the teachers using three different desist strategies to handle one misbehavior problem. Each group of three desist strategies will be either public or private, and the messages will represent three different levels of force. You will be asked: (1) to identify whether the desist strategy is a public or private communication, and (2) to rate the desist strategies shown according to their relative amounts of force.

The objectives of Part Four, stated in terms of what you will be able to do after instruction are:

Identify from the same series of example whether the desist strategies are public or private.

Identify from a series of examples the relative levels of force represented in different teacher communications (desist strategies.)

NOW WATCH THE FILM-TAPE PRESENTATION MARKED "PHASE I. CLASSROOM MANAGEMENT, PART 4".

Questions for Episode A.

Write down in a sentence what Mrs. Mason's response was. Then answer Questions 1 and 2.

- Question 1. Was the teacher's response public or private? _____
- Question 2. In your opinion, how much force was used little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 1 AND 2

1. Private. Mrs. Mason did not disrupt other students.
2. Little force was used. Mrs. Mason simply stood beside the students.

CONTINUE WITH EPISODE B ON THE FILM-TAPE PRESENTATION.

Questions for Episode B

Write down in a sentence what Mrs. Mason's response was. Then answer Questions 3 and 4.

Question 3. Was the teacher's response public or private? _____

Question 4. In your opinion, how much force was used: little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 3 AND 4

3. Private. Mrs. Mason spoke softly to the students and did not disrupt others.
4. Much force was used in comparison with Episode A. Mrs. Mason threatened the misbehaving students with a failing grade.

CONTINUE WITH EPISODE C ON THE FILM-TAPE PRESENTATION.

Questions for Episode C

Write down in a sentence what Mrs. Mason's response was. Then answer Questions 5 and 6.

Question 5. Was the teacher's response public or private? _____

Question 6. In your opinion, how much force was used: little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 5 and 6

- 5. Private. The messages did not disrupt others.
- 6. Moderate force. A quiet reminder was made.

NOW CONTINUE WITH SITUATION 2 ON THE FILM-TAPE PRESENTATION.

Questions for Episode A

Write down in a sentence what Mrs. Mason's response was. Then answer Questions 7 and 8.

Question 7. Was the teacher's response public or private? _____

Question 8. In your opinion, how much force was used: little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 7 AND 8

7. Public. Mr. Warren gained the attention of others.
8. Moderate. The boys were firmly told to return to their seats. but were not reprimanded.

CONTINUE WITH EPISODE B ON THE FILM-TAPE PRESENTATION

Norms for behavior in Episode B have been previously set.

Questions for Episode B

Write down in a sentence what Mr. Warren's response was. Then answer Questions 9 and 10.

Question 9. Was the teacher's response public or private? _____

Question 10. In your opinion, how much force was used: little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 9 AND 10

9. Public. The messages gained the attention of others.
10. Little. "You are disturbing others" represents less force than the response in Episode A.

CONTINUE WITH EPISODE C ON THE FILM-RAPE PRESENTATION

Questions for Episode C

Write down in a sentence what Mr. Warren's response was. Then answer Questions 11 and 12.

Question 11. Was the teacher's response public or private? _____

Question 12. In your opinion, how much force was used. Little, moderate, or much? _____

CHECK YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - QUESTIONS 11 AND 12

11. Public. The messages gained the attention of others.
12. Much force was used by Mr. Warren. He punished misbehaving students.

NOW CONTINUE WITH SITUATION 3 ON THE FILM-TAPE PRESENTATION
(If you wish, make notes on each episode in the space below)

Notes (optional)

Episode A

Episode B

Episode C

GO TO EXERCISE 1 BELOW.

Exercise 1

- a. The three episodes in Situation 3 were what type of desist strategy:
public or private? _____
- b. Rate the three desist strategies according to the relative amount of
force each represents (Rate each episode by writing least, moderate,
or most in the blanks.)
A. _____ B. _____ C. _____

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 1

- A. Public. The messages gained the attention of others.
- B. a. Most
b. Least
c. Moderate

NOW CONTINUE WITH SITUATION 4 ON THE FILM-TAPE PRESENTATION
(If you wish, make notes on each episode in the spaces below)

Notes (optional)

Episode A

Episode B

Episode C

GO TO EXERCISE 2 BELOW

Exercise 2

- a. The three episodes in Situation 4 were generally what type of desist strategy: public or private? _____
- b. Rate the three desist strategies according to the relative amount of force each represents (Rate each episode by writing least, moderate, or most in the blanks.)

A. _____ B. _____ C. _____

COMPARE YOUR ANSWERS WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 2

- A. Public. Generally the messages gained the attention of others. In Episode A, the message was probably the least disruptive but was made publicly. In Episode B, the message was still not disruptive but again was public. It was contained within the medium of instruction. In Episode C, the public message clearly singled out the boys and disrupted instruction.
- B. a. Least
b. Moderate
c. Most

NOW CONTINUE WITH EXERCISE 3 BELOW.

Exercise 3

- a. In a short paragraph, distinguish between a public and a private desist strategy. Use examples from the episode you have seen.
- b. Think back on the twelve episodes you have just seen. What elements did the teacher responses that used little force have in common?

What elements did the teacher responses that used a lot of force have in common?

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE 3

- A. A public desist strategy is a message by the teacher to a misbehaving child or group of children that gains the attention of others. A private desist strategy is a message by the teacher to a misbehaving child or group of children that does not disrupt others.
- B. The episodes that showed little force being used were characterized by a minimum of interaction with the students about the misbehavior. Sometimes, the desist strategy was non-verbal (e.g., in Situations 1 and 4.)

When the teacher used much force, the responses were always verbal and often involved threat (e.g., in Situation 1), or punishment (e.g., in Situations 2 and 3.)

NOW READ DIRECTIONS BELOW

Directions

If you did not answer Exercises 1 and 2 correctly, you may wish to recycle through Part 4.

CONTINUE WITH PART 5 OF THE STUDENT MANUAL.

PART 5

Review and Self-Evaluation

Introduction

Review: In Part 1 the three roles of an elementary teacher were identified. These roles were _____, _____, and _____. In part 2 it was shown how a teacher's effectiveness as a classroom manager depends initially on how well the children are prepared for an activity. However, the teacher continually faces the problem of responding to disturbances when they arise. These responses were called _____ strategies. In Part 4, distinctions were made between levels of force used by a teacher in both public and private communications with his students.

Self Evaluation: Now in Part 5, you will review the use of desist strategies in twenty episodes. You will be asked to determine which desist strategies are disruptive of class activities and which will achieve the stated management objectives.

The objectives of Part 5, stated in terms of what you will be able to do after the instruction are:

Given a series of paired teaching strategies:

- Predict whether a teaching strategy will accomplish the stated management objectives.
- Predict the relative amount of disruption each teaching strategy will make in the class activity.
- Predict which teaching strategy is more effective for achieving the desired management objective.

Correct answers for above blanks: instructor, group manager, therapist, and desist.

NOW READ DIRECTIONS BELOW

In Part 5, you will again use the film-tape presentation. For each of the twenty situations, follow this procedure:

<u>Step</u>	<u>Material</u>	<u>Student Action</u>
1	Film-tape presentation	View: Background of situation Management objectives Problem as it develops Teacher strategy #1 Teacher strategy #2
2	Student Manual Part 5	Answer Questions 1, 2, & 3: 1. Do you think the teacher strategies will accomplish the management objectives? 2. Which strategy do you think will be more disruptive? 3. Which teacher strategy do you think will be more effective?
3	Film-tape presentation	View: Pupil response #1 Pupil response #2
4	Student Manual Part 5	Answer Questions 4, 5, & 6: 4. Did the teacher strategy accomplish the management objective? 5. Which strategy was more disruptive? 6. Which strategy was more effective?
5	Film-tape presentation	Compare your predictions and evaluations with ours.

The objective of the twenty situations is to give you a chance to put into practice your two newly learned principles of classroom management. Do not let the limitations of a simulated classroom interfere with your opportunity. We hope that when you disagree with our answers you will discuss it with your classmates and/or your instructor.

As a final reminder before you start - this series is a prototype and is designed as a foundation for your use in building your personal framework in teacher education.

NOW WATCH THE FILM-TAPE PRESENTATION MARKED "PHASE I. CLASSROOM MANAGEMENT, PART 5."

Remember

This is not a test. It is an exercise to let you discover how well you have learned the two principles of classroom management.

TEACHER STRATEGIES
Part 5-A

	<u>QUESTION 1</u>	<u>QUESTION 2</u>	<u>QUESTION 3</u>
	Do you think the teacher strategy will <u>accomplish</u> the management objectives?	Which strategy do you think will be <u>less</u> disruptive?	Which teacher strategy do you think will be <u>more</u> effective?
	Mark each strategy <u>Yes</u> or <u>No</u>	Mark the strategy with <u>X</u>	Mark the strategy with <u>X</u>
SITUATION 1 <u>The Study Period</u>			
Strategy 1			
Strategy 2			
SITUATION 2 <u>The Study Period Cont.</u>			
Strategy 1			
Strategy 2			
SITUATION 3 <u>Circle Discussion</u>			
Strategy 1			
Strategy 2			
SITUATION 4 <u>Returning From Recess</u>			
Strategy 1			
Strategy 2			
If the teacher had used a maintaining strategy*, meeting the students at the door, she might have avoided using a desist strategy.			
SITUATION 5 <u>Committee Work</u> Norms for behavior have been previously set.			
Strategy 1			
Strategy 2			
SITUATION 6 <u>Committee Work Cont.</u> Norms for behavior have been previously set.			
Strategy 1			
Strategy 2			

*A maintaining strategy will preserve the status quo. It is very possible that by using a maintaining strategy the teacher will not be forced later to use a desist strategy. Some examples of maintaining strategies are: (1) walking in front of your class as they move from one area to another; (2) circulating among your students during a study period; and (3) meeting your students at your classroom door as they return to the room.

PUPIL RESPONSE
Part 5-A

	QUESTION 4 Did the teacher strategy accom- plish the manage- ment objectives? Mark each strategy <u>Yes</u> or <u>No</u>	QUESTION 5 Which strategy was less disrup- tive? Mark the strategy with <u>X</u>	QUESTION 6 Which strategy was more effec- tive? Mark the strategy with <u>X</u>
SITUATION 1 <u>The Study Period</u>			
Strategy 1			
Strategy 2			
SITUATION 2 <u>The Study Period Cont.</u>			
Strategy 1			
Strategy 2			
SITUATION 3 <u>Circle Discussion</u>			
Strategy 1			
Strategy 2			
SITUATION 4 <u>Returning From Recess</u>			
Strategy 1			
Strategy 2			
SITUATION 5 <u>Committee Work</u>			
Strategy 1			
Strategy 2			
SITUATION 6 <u>Committee Work Cont.</u>			
Strategy 1			
Strategy 2			

TEACHER STRATEGY
Part 5-8

		QUESTION 1	QUESTION 2	QUESTION 3
		Do you think the teacher strategy will <u>accomplish</u> the management objectives?	Which strategy do you think will be <u>less</u> <u>disruptive</u> ?	Which teacher strategy do you think will be <u>more</u> <u>effective</u> ?
		Mark each strategy <u>Yes</u> or <u>No</u>	Mark the strategy with <u>X</u>	Mark the strategy with
SITUATION 7 <u>Oral Reports</u>	Strategy 1			
	Strategy 2			
SITUATION 8 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 9 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 10 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 11 <u>Oral Report Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 12 <u>Art Period</u> Maintaining strategy would have avoided the sit- uation.	Strategy 1			
	Strategy 2			

PUPIL RESPONSE
Part 5-B

PUPIL RESPONSE Part 5-B		QUESTION 4 Did the teacher strategy accomplish the management objectives? Mark each strategy <u>Yes</u> or <u>No</u>	QUESTION 5 Which strategy was less disruptive? Mark the strategy with <u>X</u>	QUESTION 6 Which strategy was more effective? Mark the strategy with <u>X</u>
SITUATION 7 <u>Oral Reports</u>	Strategy 1			
	Strategy 2			
SITUATION 8 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 9 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 10 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 11 <u>Oral Reports Cont.</u>	Strategy 1			
	Strategy 2			
SITUATION 12 <u>Art Period</u>	Strategy 1			
	Strategy 2			

TEACHER STRATEGY
Part 5-C

	QUESTION 1	QUESTION 2	QUESTION 3
	Do you think the teacher strategy will <u>accomplish</u> the management objectives?	Which strategy do you think will be <u>less disruptive</u> ?	Which teacher strategy do you think will be <u>more effective</u> ?
	Mark each strategy <u>Yes</u> or <u>No</u>	Mark the strategy with <u>X</u>	Mark the strategy with <u>X</u>
SITUATION 13 <u>Reading Circle</u>			
Strategy 1			
Strategy 2			
SITUATION 14 <u>Read Circle Cont.</u> In Situation 13 you signaled the two boys.			
Strategy 1			
Strategy 2			
SITUATION 15 <u>Construction Period</u> List your rules. 1. 2.			
Strategy 1			
Strategy 2			
SITUATION 16 <u>Construction Period</u> <u>Cont.</u> Norms for behavior have now been set.			
Strategy 1			
Strategy 2			
SITUATION 17 <u>Music Class</u> Norms for behavior have been previously set.			
Strategy 1			
Strategy 2			

PUPIL RESPONSE
Part 5-C

	QUESTION 4	QUESTION 5	QUESTION 6
	Did the teacher strategy accomplish the management objectives?	Which strategy was less disruptive?	Which strategy was more effective?
	Mark each strategy <u>Yes</u> or <u>No</u>	Mark the strategy with <u>X</u>	Mark the strategy with <u>X</u>
SITUATION 13 <u>Reading Circle</u>			
Strategy 1			
Strategy 2			
SITUATION 14 <u>Read Circle Cont.</u>			
Strategy 1			
Strategy 2			
SITUATION 15 <u>Construction Period</u>			
Strategy 1			
Strategy 2			
SITUATION 16 <u>Construction Period Cont.</u>			
Strategy 1			
Strategy 2			
SITUATION 17 <u>Music Class</u>			
Strategy 1			
Strategy 2			

TEACHER STRATEGY
Part 5-C Cont.

	QUESTION 1	QUESTION 2	QUESTION 3
	Do you think the teacher strategy will <u>accomplish</u> the management objectives?	Which strategy do you think will be <u>less disruptive</u> ?	Which teacher strategy do you think will be <u>more effective</u> ?
	Mark each strategy <u>Yes</u> or <u>No</u>	Mark the strategy with <u>X</u>	Mark the strategy with
SITUATION 18 <u>Music Class Cont.</u> In Situation 17 you signaled Sam to stop bothering Brad. You have now returned to the back of the room. Strategy 1 Strategy 2			
SITUATION 19 <u>Music Class Cont.</u> In Situation 18 you privately asked Sam to stop bothering Brad. You have returned to the back of the room. Strategy 1 Strategy 2			
SITUATION 20 <u>Music Class Cont.</u> In Situation 19 you told Sam privately he would be removed from the room if he did not stop bothering Brad. You have returned to the back of the room. Strategy 1 Strategy 2			

PUPIL RESPONSE
Part 5-C

SITUATION 18
Music Class Cont.

SITUATION 19
Music Class Cont.

SITUATION 20
Music Class Cont.

	QUESTION 4 Did the teacher strategy accom- lish the manage- ment objectives? Mark each strategy with <u>Yes</u> or <u>No</u>	QUESTION 5 Which strategy was less disrupt- ive? Mark the strategy with <u>X</u>	QUESTION 6 Which strategy was more effec- tive? Mark the strategy with <u>X</u>
Strategy 1			
Strategy 2			
Strategy 1			
Strategy 2			
Strategy 1			
Strategy 2			

PART 5
EVALUATION OF QUESTIONS 1-6

Evaluation of questions 1, 2, and 3.

The following four pages contain the predicted answers for questions 1, 2, and 3. The section also includes a capsule comment about each situation. The ~~comment~~ will relate to you the rationale for the prediction. To remind you, if you disagree with a prediction talk it over with your classmates and/or your instructor. You will attain the most from this package not by getting all the predictions correct, but by understanding the rationale behind the prediction. It is anticipated that your discussions along with the capsule comments will provide for that rationale.

Evaluation of questions 4, 5, and 6.

Questions 4, 5, and 6 were an evaluation, not a prediction of pupil response. The objectives of Part 5 were for you to predict if the teacher strategy would work, to predict which teacher strategy would be less disruptive, and to predict which teacher strategy would more effective. Since evaluation was not part of the stated objectives, there is not an answer guide to these three questions. However, because it is an evaluation the answers are clearly shown on the slide-tapes.

Situation 1. The Study Period

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

Mrs. Mason, in teacher strategy 1, moves to the boys and her non-verbal communication makes any class disruption possibility very minimal.

Situation 2. The Study Period Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Again Mrs. Mason moves to the group. This time her quiet voice is directed only at the four students not in their desks and class disruption should be minimal.

Situation 3. Circle Discussion

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

In teacher strategy 1, Mr. Warren calls Doug's attention, gives him the facts and then asks him a question. This should give Doug the opportunity to answer without embarrassment and class interruption.

Situation 4. The Children Return From Recess

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

In strategy 1, Mrs. Mason gives specific instructions to the group. They should know exactly what is expected of them.

Situation 5. Committee Work

QUESTION	1	2	3
TEACHER			
STRATEGY 1	N	X	X
TEACHER			
STRATEGY 2	N		

Neither teacher strategy helps the group to solve in problem and get to work. Strategy 2 might do it very well if Terry were the only group member not participating.

Situation 6. Committee Work Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	N		

In strategy 1, Mr. Warren gives the students very explicit directions and then helps them follow his directions. He does it in a quiet quick manner that should stop the disruption to the other groups.

Situation 7. Oral Reports

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

Stan is facing Mr. Warren so strategy 1 should be effective with no disruption to Jeff's report.

Situation 8. Oral Reports Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Mr. Warren, in strategy 2, by moving behind Stan and Kathy should attain the management objectives without any disruption to the ant report.

Situation 9. Oral Report Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

If Billy can see Mr. Warren's signal, strategy 1 will be the most effective and will cause least disruption to the instructional program.

Situation 10. Oral Report Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Mr. Warren leaves not doubt about Billy being aware in this episode by moving behind him.

Situation 11. Oral Report Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Both strategies should work unless Billy wants to leave the classroom. There is no doubt that strategy 1 will stop Billy from playing with the airplane because Mr. Warren has already removed it from him.

Situation 12. The Art Period

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

In strategy 2 Mrs. Mason should cause less disruption and be more effective because she includes all those who are "fooling around."

Situation 13.

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

In strategy 2 Mrs. Mason should be able to continue the discussion in her own group while accomplishing her management objectives.

Situation 14. The Reading Circle Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

The predicted interruption to Mrs. Mason's reading group will be less in strategy 1 than in strategy 2.

Situation 15. The Construction Period

- Rules:
1. Each student will work quietly at his own desk.
 2. Each student will work his own project.

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		Y
TEACHER			
STRATEGY 2	Y	X	

Strategy 1 should cause less disruption during the total construction period because of the resetting of the norms for behavior.

Situation 16. The Construction Period Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Once again Mrs. Mason moves to the disturbing group uses her quiet voice. Her quiet voice should accomplish her management objectives and not disturb other class members.

Situation 17. Music Class

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		X
TEACHER			
STRATEGY 2	N	X	

Strategy 1 should be more effective because you have some direct non-verbal communication with Sam. Strategy 2 would be less disruptive because you have not walked in front of some of the students.

Situation 18. Music Class Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

Both strategies should be effective, however strategy 1 should disrupt the class less than strategy 2.

Situation 19. Music Class Continued

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y	X	X
TEACHER			
STRATEGY 2	Y		

Both strategies should be effective, even though in strategy 1 Mr. Warren asked Sam to be quiet and not to stop bothering Brad. Strategy 1 should cause less disruption. It also should be more effective because of the personal contact with Sam.

Situation 20. Music Class Continued

S

QUESTION	1	2	3
TEACHER			
STRATEGY 1	Y		
TEACHER			
STRATEGY 2	Y	X	X

Both strategies cannot help but be effective because Sam is on his way out of the room. Strategy 2 however did it with less interruption.

Appendix D

Classroom Management

Student Manual

Phase II

Low Cost Instructional Simulation
Materials for Teacher Education

Phase II. Classroom Management
Student Manual

Revised
September 1968

Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon

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INTRODUCTION

In Phase I, two principles of classroom management were introduced. These were: (1) the principle of setting norms for social behavior, and (2) the principle of the amount of force and privacy of communication between teacher and student(s). You had a chance to see a teacher prepare children for activities and to deal with disruptions arising in the classroom.

Phase II will give you the opportunity to practice the application of the two principles you have learned. You will have the chance to try your techniques to accomplish the desired student behavior. Immediately afterward you will be able to evaluate your techniques with that of an experienced teacher. Specifically, Phase II will involve three activities. These are:

Orientation - You will meet 'your' students in the simulated classroom. Also you will have the opportunity to get to know 'your' school and its community.

Training - Here you will encounter simulated problematic situations, respond to them, and compare your response with an expert teacher's response.

Evaluation - Here's your chance to show off your skill in handling 'your' (simulated) class.

At this time let's review for a moment the objectives of the management package. The package was designed for your use in learning two principles of classroom management and to give you an opportunity to practice techniques in applying the principles. They were not designed as exemplars of instructional method or as the one and only way of attaining management objectives. They were prepared to give you the chance to build a foundation in classroom management. This is a foundation upon which you can develop and build your own individual teaching skills.

Phase II uses an integrated set of materials, including: (1) an orientation booklet and accompanying film-tape introduction to the class; (2) the manual you are now reading; (3) simulated classroom situations on motion-picture film; and (4) an analysis of simulated problems that your professor has prepared (optional). By reading through the Student Manual, you will be guided along each step of the program. The materials were designed to be used in sequence.

The objective of Phase II, stated in terms of what you will be able to do after instruction, is:

Respond correctly to 10 of the 12 simulated problem situations in the evaluation section.

ORIENTATION

The orientation booklet describes the "College Grove Elementary School," the community, and "your" pupils. The accompanying film-tape presentation introduces the children to you, and tells a little about each one. You will not be expected to memorize all of this material. Rather, it is offered as a means of acquainting you with some of the details that teachers should be aware of. Note the unusual characteristics of each child as they are discussed in the booklet. These characteristics may cause you to modify your mode of operation toward that individual. As you study these materials, try to associate the name and face of the child with the information you are reading. The film-tape presentation will help you learn the pupils' names.

NOW TURN TO THE ORIENTATION BOOKLET AND STUDY THE DESCRIPTION OF THE SCHOOL AND COMMUNITY ON PAGES 1-4. THEN WATCH THE FILM-TAPE PRESENTATION, "INTRODUCTION TO THE CLASS". FINALLY, TURN BACK TO THE ORIENTATION BOOKLET AND STUDY THE SOCIOGRAM, THE CUMULATIVE RECORDS AND OTHER INFORMATION. YOU MIGHT WANT TO NOTE THE IMPORTANT CHARACTERISTICS OF EACH CHILD THAT YOU WISH TO REMEMBER.

NOW BEGIN READING THE ORIENTATION BOOKLET.

TRAINING

Now you will have a chance to practice using some of the techniques you learned in Phase I. The classroom simulation films are divided into "days". During training, you will use two complete "days". (A third "day" will be reserved for evaluation).

Day 1 includes 12 situations; Day 2 has 12. The situations are arranged chronologically, so that Situation #1 occurs in the morning, Situation #7 occurs near the middle of the day, and the last situation occurs in the afternoon. You will remember that the simulated class that you will be teaching is part of a three-room team area. The other two teachers in your team are Mr. Warren and Mrs. Mason.

During training, you will use the classroom simulation films and this manual. For each episode, follow this procedure:

<u>Step</u>	<u>Material</u>	<u>Student Action</u>
1	Student Manual	Study the background, the situation, i.e., the time of day, the activity, and other pertinent information.
2	Classroom Simulation Film	View the situation. Respond when appropriate.
3	Student Manual	Complete Exercise 1.
4	Classroom Simulation Film	View what an experienced teacher might have done. View the probable class response.
5	Student Manual	Compare your response with the teachers' response. How did it differ? Complete Exercise 2.

Step 1 acquaints you with the background situation of the simulated problem scene. In other words, it "sets the stage" for what you will see on the film.

Step 2 presents the problem scene to you. The scene has been filmed in such a way as to make you the teacher. The children will look at you. Your position in the classroom will be from where the problem is filmed. As you watch, imagine the response that you would make. If you would say something, say it to yourself; if you would do something, imagine exactly what you would do. If you care to, respond as though you were in a real class. That's right, say it out loud, but to the simulated class.

This is called "role-playing". In any event, whether you do it or think it, respond. Respond as though your job depended on it. In this way, practice in this simulated classroom will be of optimal value to you.

When the problem scene ends, turn off the projector.

Step 3 gives you the opportunity to record your response. Complete the questions listed in Exercise 1 of each situation. In some instances, you may be furnished a tape recorder to record your responses. If this is the case, use the questions as a guide. It is very important that you answer all of the questions: (1) What are your management objectives (the goals of your response); (2) What would you say and do (your words and actions); (3) Where and when would you respond (your location in the room and the timing of your response); (4) The level of force and the privacy of your response; (5) What was the problem (a brief description of the problem e.g., "a fight" or "talking during a quiet study period"); and (6) Why did you make that particular response (your rationale for your response)?

Step 4 lets you see a demonstration of how Mr. Warren or Mrs. Mason, who are experienced teachers, respond to the problem. Your position in the classroom will be one of an observer, but just for the time being. When the probable class response is shown, you are right back in the position of the teacher. Again, the class will look at you. This will give you a more realistic view of the student reaction to the teacher response.

When the pupil response ends, turn off the projector.

Step 5 gives you the opportunity to compare your response with Mr. Warren's or Mrs. Mason's response. How did it differ? If your response was different, do you think it was a better response? Why? Record your answers in Exercise 2 of each situation. In some instances, your instructor may have prepared an analysis of the problem. If this is the case, study the analysis at this time.

NOW BEGIN TRAINING BY READING THE BACKGROUND INFORMATION ON THE FOLLOWING PAGE TO SITUATION 1 OF THE FIRST DAY. (YOU WILL BE STUDYING 24 SITUATIONS IN ALL).

DAY 1

Situation 1: The Reading Circle I

Background

You are going to begin the day's instructional program with a reading lesson. You plan to work with a small group of six youngsters while the rest of the class reads silently at their desks. The class has not used this organizational pattern before. You have just finished giving the class their assignment. You are reasonably sure they know what to do. You are standing in front of the class with the children watching you.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 2

DAY 1

Situation 2: The Reading Circle II

Background

You are now in the reading circle. The norms for social behavior were set in the previous episode. You and the group are discussing the story which they have just read. A few minutes ago you noticed a couple of girls playing by the pencil sharpener. Without stopping the lesson you caught the girls' eye and shook your head. Now you have just asked the question, 'What do you think grandfather meant when he said, 'Keep a clear head when you are hunting '?'

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 3.

DAY 1

Situation 3: Going to Recess

Background

The reading lesson has ended and the children are back at their desks. It is time to excuse them for recess. At the teachers' meeting yesterday the principal mentioned that your children were too noisy on their way to recess. You are standing at the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 4

DAY 1

Situation 4: On the Way to Recess

Background

You and the class have just set the norms for behavior on the way to recess. Now you have dismissed the class. You are standing in front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 5

DAY 1

Situation 5: Recess

Background

The children are returning to the room from recess. The norms for behavior have been previously set. You are standing at the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 6

DAY 1

Situation 6: Discussion I

Background

The social studies discussion has begun. The class is discussing the organization of the state legislature. The norms for behavior have been previously set by the class. You are standing at the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 7.

DAY 1

Situation 7: Discussion II

Background

This is a continuation of the social studies discussion. You are now standing at the right hand side of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 8.

DAY 1

Situation 8: The Study Period

Background

This is study period. Each student is working quietly on his own project at his desk. The norms for behavior have been previously set. You are watching the class from the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 9.

DAY 1

Situation 9: Science Committees I

Background

The children are to begin their new science project, "Space Visit Through the Solar System". Committees to study and report on each planet will meet for the first time. This is also the first time that you have had the children doing committee work. You have just finished telling the committees where they are to meet and how much time they have. You are standing in front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 10.

DAY 1

Situation 10: Science Committees II

Background

This is a continuation of the science committee work. Before work started norms for behavior were set. You are standing at the front of the room watching the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 11.

DAY 1

Situation 11: Science Committee III

Background:

This is a continuation of the science committee work. Before work started norms for behavior were set. You are standing at the front of the room watching the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high)

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 12.

DAY 1

Situation 12: Science Committees IV

Background

The time for committee work is over. You have just asked the children to return their desks to the regular seating arrangement. You are standing in front of the classroom.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

YOU HAVE FINISHED THE 12 SITUATIONS FOR DAY 1. NOW TURN TO THE
NEXT PAGE AND BEGIN SITUATION 1 OF DAY 2

DAY 2

Situation 1: Before Class

Background

It is fifteen minutes before the beginning of school. The principal has told you that children may come into the room before school, but they may not take out athletic equipment. The children have been informed of this ruling. You are sitting at your desk at the front of the room. Some children are already in the room working or quietly talking.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 2.

DAY 2

Situation 2: Reading Group I

Background

The reading period has started. You have given all of the children their assignments. You have just called the first group to the reading circle. Norms for behavior were established yesterday. You are standing inside the circle of chairs waiting for the children to assemble.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 3.

DAY 2

Situation 3: Reading Group II

Background

This is a continuation of the reading group. You are now discussing the story that the children in the group have just finished reading. You are located in the front of the room facing the children who are seated in a semicircle. The rest of the class is working at their desks. You have just asked the inference question: "Why do you think the lion did not eat Androcles?"

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 4.

DAY 2

Situation 4: Reading Group III

Background

This is a continuation of the previous situation in the reading circle. You are seated as you were in the previous situation. You have just asked a question: "What does the term 'power of kindness' mean in the story?"

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high)

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 5.

DAY 2

Situation 5: Reading Group IV

Background

You are still working with the reading group at the circle. The group has just started reading a section of their books silently. You are sitting in the circle facing the children in the circle and the children at their seats.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 6.

DAY 2

Situation 6: Reading Group V

Background

This is still a continuation of the reading class. You are finished with this group. You would like them to return to their seats. You are setting inside the reading circle.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 7.

DAY 2

Situation 7: The Debate I

Background

The children have just returned from lunch and are cleaning their desks in preparation for the social studies period. Today the class will hold a debate on the proposed pollution bill which is presently before the State Senate. You have not talked with the children about the format of the debate, nor have the children conducted debates in this class before. You are standing in the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 8.

DAY 2

Situation 8: The Debate II

Background

The debate is continuing. You are standing at the side of the room watching the debate.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 9.

DAY 2

Situation 9: The Debate III

Background

The debate is continuing. The formal arguments have been completed. The children in the classroom are asking questions of the debaters. You are standing in the rear of the room watching.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 10.

DAY 2

Situation 10: Rainy Day Lunch Period

Background

It is now noon recess. It is a rainy day and so most of the children are in the room. Some girls have decided to listen to records and dance. Other children are standing around watching them. One or two children are working at their desks. Norms for behavior have been previously set. You are at the front of the room preparing for the afternoon.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 11.

DAY 2

Situation 11: Science Research Period

Background

Noon recess is over and it is now the science period. The children have been reading about weather instruments in their science books, and they are now answering questions on worksheets at their desks. You have asked that each child do his own work. You are standing in the front of the room watching the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 12.

DAY 2

Situation 12: Art

Background:

It is time for art. You have decided to try a different art form, block printing, which involves use of a linoleum block and a cutting knife by each child. You are standing at the front of the classroom. The linoleum blocks and cutting knives are on the table in front of you. The children are sitting at their desks, waiting.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

YOU HAVE COMPLETED THE 12 SITUATIONS FOR DAY 2. NOW TURN TO THE NEXT PAGE AND READ THE INTRODUCTION TO DAY 3, THE EVALUATION SECTION OF PHASE II.

EVALUATION

Now is your chance to show off. Actually, the procedure will be no different than before. You will still see simulated problems. You will still respond. You will still see the teachers. The only difference is that you will have a chance to see how well you can do after having some training.

In this Evaluation Section there are 12 situations. You are to compare your responses to the strategy used by the teacher in each situation. If you respond correctly to 10 out of 12 simulated problems you will have met the major objective of training.

NOW CONTINUE BY BEGINNING SITUATION 1 OF DAY 3. YOU WILL FIND THE BACKGROUND INFORMATION ON THE NEXT PAGE.

DAY 3

Situation 1: Lunch Count

Background

The class has assembled. You are about to take the lunch count. During the last few days you have had difficulty taking the lunch count because the children were noisy. You are standing in the front of the room facing the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 2.

DAY 3

Situation 2: Reading Circle I

Background

You are working with five students in a reading circle at the front of the room. The remainder of the class is doing individual work at their desks. Norms for behavior were set before the reading circle began. Your group is reading silently.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 3.

DAY 3

Situation 3: Reading Circle II

Background

This is a continuation of the reading period. The children are still reading silently.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 4.

DAY 3

Situation 4: Reading Circle III

Background

This is a continuation of the reading period. The children are still reading silently.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 5.

DAY 3

Situation 5: Morning Recess I

Background

You have recess duty today. College Grove Elementary has a large blacktop and a large grass area for play. The weather is warm and sunny. You are on the playground.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 6.

DAY 3

Situation 6: Morning Recess II

Background

You have returned to the room from recess duty. You are standing by the door as the children return from recess.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 7.

DAY 3

Situation 7: Science Study Period I

Background:

You are about to begin a science study period with the class. The children will continue working on the individual assignments which they started yesterday. While they worked yesterday, you spent a considerable amount of time asking children to be quiet and to do their work. You are standing at the front of the room facing the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 8.

DAY 3

Situation 8: Science Study Period II

Background

This is a continuation of the science study period. The norms for social behavior were set before this study period began. You are standing at the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 9.

DAY 3

Situation 9: Lunch Time

Background

It is lunch time and you have just dismissed the children for lunch. Norms for behavior have been established. You are standing at the front of the room.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 10.

DAY 3

Situation 10: Noon Recess I

Background

It is noon recess time and raining. Those children who did not go home for lunch are playing in the classroom. Norms for behavior were set sometime ago. You are sitting at the front of the room watching the children play.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 11.

DAY 3

Situation 11: Noon Recess II

Background

This is a continuation of the rainy day noon recess. You are standing by the door watching both the hall and the classroom.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

Was your response public or private? _____

What level of force did you use in your response? (low, medium, or high) _____

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

TURN TO THE NEXT PAGE AND BEGIN SITUATION 12.

DAY 3

Situation 12: After Lunch

Background

The noon recess is over and you have about 5 minutes before the next activity begins. During noon recess the principal circulated a notice to all the teachers. The notice concerned safety precautions which were to be explained to the students. The principal was concerned with misbehavior at the drinking fountains. The teachers were instructed to stress the fact that children shouldn't play or tease each other at the drinking fountain. You are standing at the front of the room facing the class.

NOW VIEW THE SITUATION ON THE FILM

Exercise 1

What are your management objectives?

What would you say?

What would you do?

Where would you respond from?

When would you respond?

What was the problem?

Why did you respond as you did?

NOW VIEW THE TEACHER STRATEGY AND PROBABLE CLASS RESPONSE

Exercise 2

Was your response different from the teacher's? (yes or no) _____

If you answered yes, how was it different?

If you answered yes, do you think your response was better? _____

Why or why not?

YOU HAVE NOW COMPLETED THE 12 SITUATIONS OF DAY 3. HOW DID YOU DO?
IF YOU RESPONDED CORRECTLY TO 10 OUT OF THE 12 SITUATIONS, CONGRATULATIONS.
IF YOU DID NOT RESPOND TO AT LEAST 10 OF THE SITUATIONS CORRECTLY YOU
MAY WISH TO RECYCLE THROUGH THE METHODS AND PRINCIPLES TAUGHT IN PHASE I.

Appendix E
Classroom Management
Orientation Booklet,
Phase II

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Phase II. Classroom Management
Orientation Booklet**

February 1968

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

TABLE OF CONTENTS

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DESCRIPTION OF SCHOOL AND COMMUNITY

The School

Your class is part of the fifth grade team in a small elementary school of 375 students. College Grove Elementary School serves a small community and the surrounding rural area. It is also used extensively by the state college nearby in connection with the teacher education program of that institution. Most of the elementary school staff also hold appointments with the college as supervising teachers. The youngsters in the school are accustomed to visitors, college student observers and student teachers. They have been used as subjects in research experiments with teaching machines, educational programs, and team teaching.

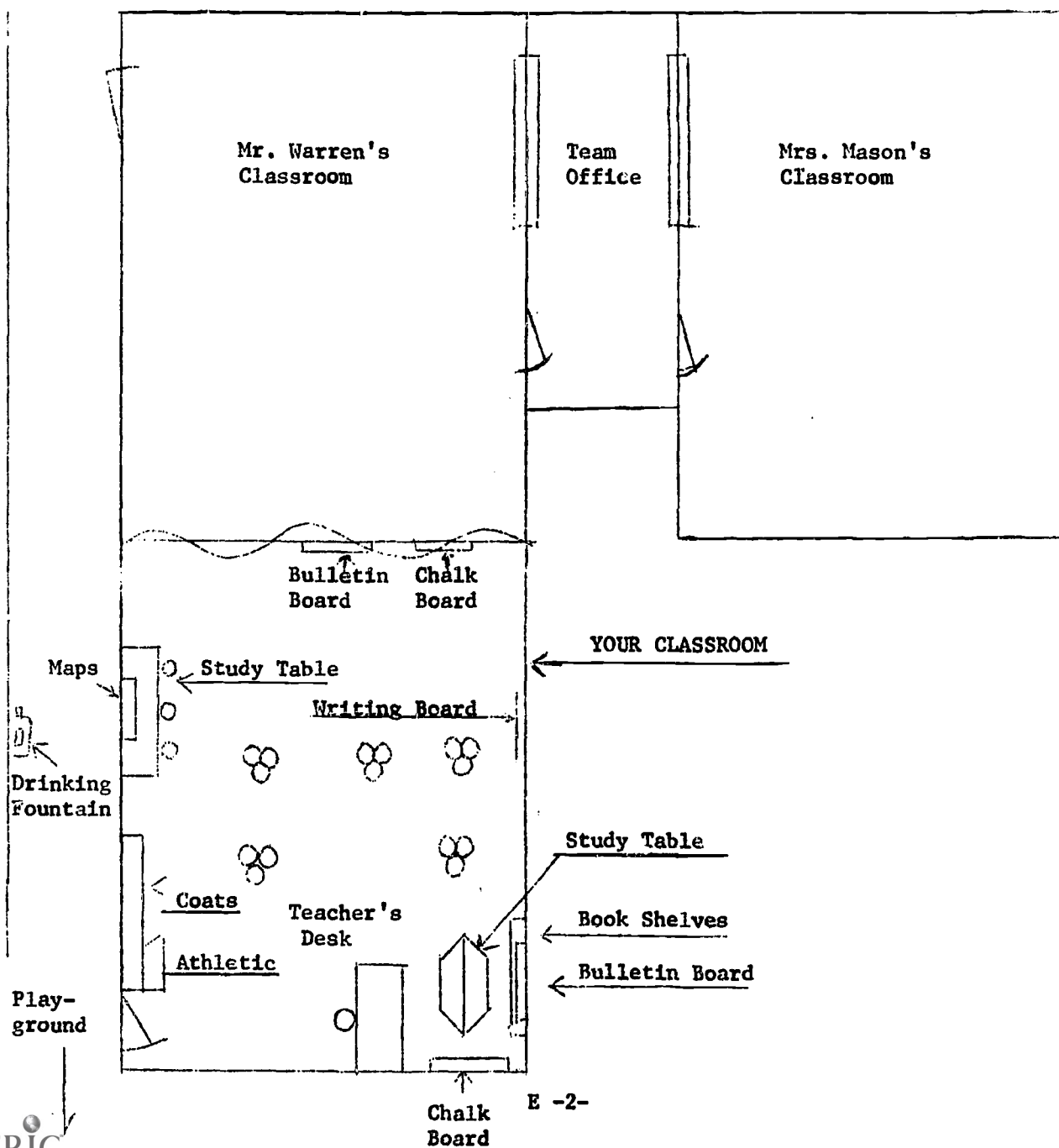
Team teaching has been used at College Grove Elementary for four years. It has been found to be an effective procedure for both meeting children's individual differences and for capitalizing upon the special talents of teachers. The school was designed for team teaching. Each grade level team is assigned to one instructional area. An instructional area contains three classrooms and an office. Two of the classrooms are divided by a movable wall. (See Figure 1) The teachers in each team plan their own instructional programs.

There are six grades in the College Grove Elementary School, plus a kindergarten which is supported, primarily, by the college. The school population is relatively stable, so most of the youngsters in the fifth grade have been in residence since the first-grade.

The principal of College Grove Elementary School allows the instructional staff a great deal of freedom in the conduct of their respective classes. He is proud of his staff and lets them know frequently, in public, that he considers them to be master teachers capable of supervising student teachers, conducting demonstrations, and generally assisting him in the functions he is responsible for as principal. The principal has the difficult task of attempting to offer the kind of program that the state college requires and at the same time to operate within the budgetary limits and somewhat restricting policies of the school board.

The school has a part-time nurse, a very adequate curriculum library, and has access to the Educational Media Center and library resources of the state college. It also has access to the physical education facilities of the college, making use of the pool, gym, and other facilities.

Figure 1
Diagram of the Team Area
and Your Classroom



The Community

The town of College Grove has a population of approximately 5,000 people and is the home of Pacific State College. No one is quite sure how many of the 2,400 college students are included in the town's census. If it were not for the influence of the state college, College Grove would not be considered very prosperous. It has no industrial support, and a large portion of the population is people over the age of 50. Despite its obvious dependence on the college, the townspeople have not identified closely with the college until recently. Consequently, the merchants and city fathers are oriented primarily to the needs of the farmers and workers in the lumber industry in the surrounding area.

College Grove is not isolated, by any means. Just two miles away is the town of Milton which is just slightly smaller in population. Milton, however, is the center of business activity for the two communities. The city planners feel that the two communities are rapidly growing together. Already the two communities have integrated their schools and built the new high school exactly half way between the two city centers. People in the surrounding area are prone to speak of the two communities as the "College Grove-Milton" area.

Milton is built along the banks of a large river so the local lumber industry is concentrated in that community as well. Milton has a small operating lumber mill.

Generally speaking, the two communities of College Grove and Milton constitute a single, loosely knit community of approximately 10,000 persons in the midst of several other larger communities. Ten miles to the north is another community of approximately 5,000. To the south 20 miles is a community of 30,000 people and to the east 18 miles is the state capitol, population 70,000. Eventually College Grove and Milton may become suburbs of the capitol city.

THE CLASS

Sociogram

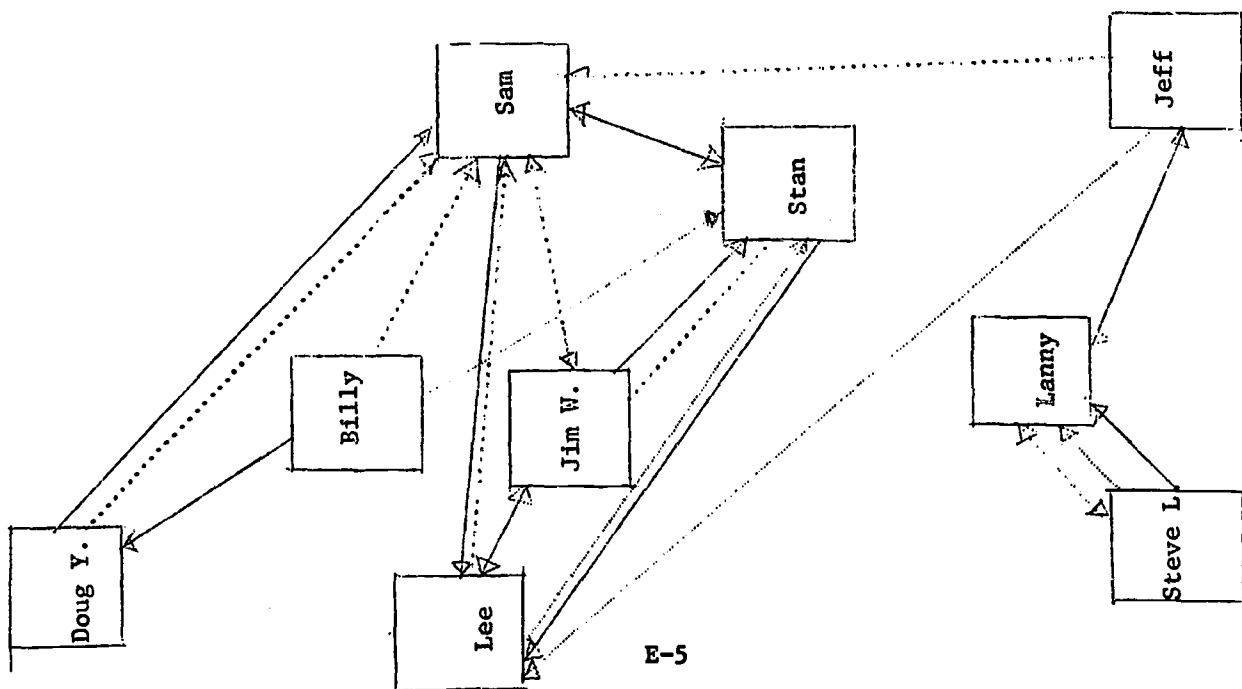
The following page contains information which will help you to understand the social status, the patterns of friendship and leadership, of the fifth grade children in College Grove Elementary. The information is given you in the form of a sociogram. The sociogram is a nominating technique, that is a rating procedure for obtaining appraisals by peers. Teachers simply ask pupils to name their choices of best friends or of work partners.

The sociogram that follows is a tabulation of answers to the following three questions:

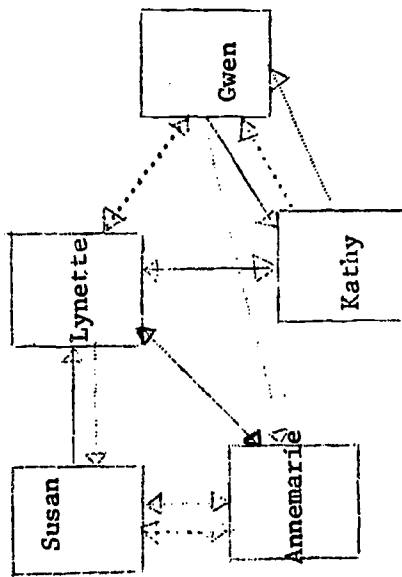
- (1) Who would you choose to work with you on an arithmetic assignment?
- (2) Who would you choose to work with you on a committee?
- (3) Who would you like to go to a movie with?

(Here is an example of how to read the chart. David Anderson chose Lynette Gray for arithmetic, Sam Mc Neil for the committee, and Sam Mc Neil for the movie.)

SOCIOGRAM



E-5



Cumulative Records

Cumulative records are very useful to a teacher because they provide background information about the students. These cumulative records contain the following information: age, family size, achievement test scores, intelligence test scores, social/personal development, and days absent due to illness.

Although most of the material found in the records can be readily interpreted, the "Profile Chart" may be confusing. Notice the achievement test scores table on the left side of the record form. To the right of this chart is the intelligence test record and a "Profile Chart". The "Profile Chart" is read by taking a specific achievement test score, READING for example, and following the line under the word, READING across into the "Profile Chart". Other specific achievement test scores can be found in the "Profile Chart" in a like manner. This "Profile Chart" provides a graphic translation of the achievement test scores.

A student personality chart at the bottom of the page reveals the student's citizenship at school as rated by the teacher. Traits such as emotional stability and development of work habits are rated by a (+) satisfactory growth, and a (✓) needs improvement. The numbers 1-8 above this chart refer to the grade level.

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Lee Gardner

Sex: Male

Age: 10

Parent or Guardian: David Gardner

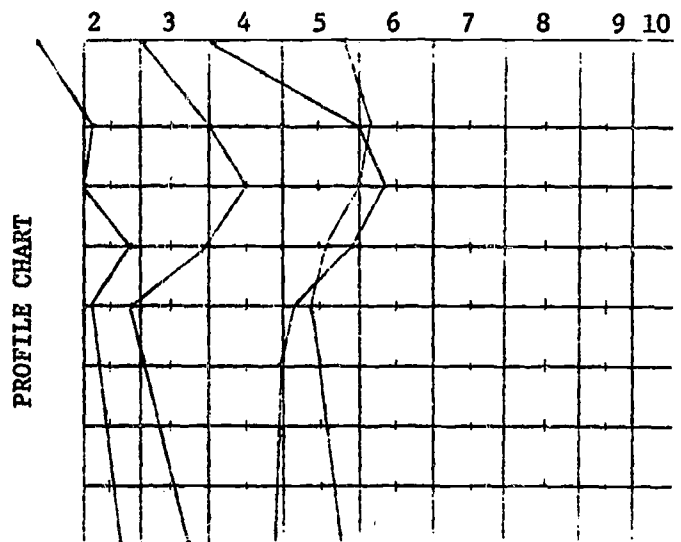
Occupation: College Administrator

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	Cal Sch	Stan Sch	IQ				
Form	AA	K	I	1			
Year Given							
Month Given	5	3	2	2			
Grade in School	1	3	4	5.5			
Test Plcmt. Grade	2.24	05.8	5.9				
Reading Language Usage	2.04	56.0	6.2				
	2.93	95.6	5.9				
Arith.	2.12	85.4	5.2				
Literature							
Social Studies			5.6				
Science			5.6				
Spelling	2.83	75.7	4.9				

Grd.	Date	Mental Test	Form	Score	CA	MA	IQ
1	10	CTMM	P	101	88	72	122
5	4	CTMM	57-S	40	125	125	119



	+ Indicates satisfactory growth								
Citizenship	✓ Indicates need for improvement	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)		+	+	+	+				
Attitude Toward Others (Courteous - Rude)		+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)		+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)		+	+	+	✓				
Development of Leadership (Leads Group - Creates Negative Response From Group)		+	+	+	+				
Days Absent Due to Illness		15	3	23	3				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Lynette Gray

Sex: Female

Age: 10

Parent or Guardian: Howard Gray

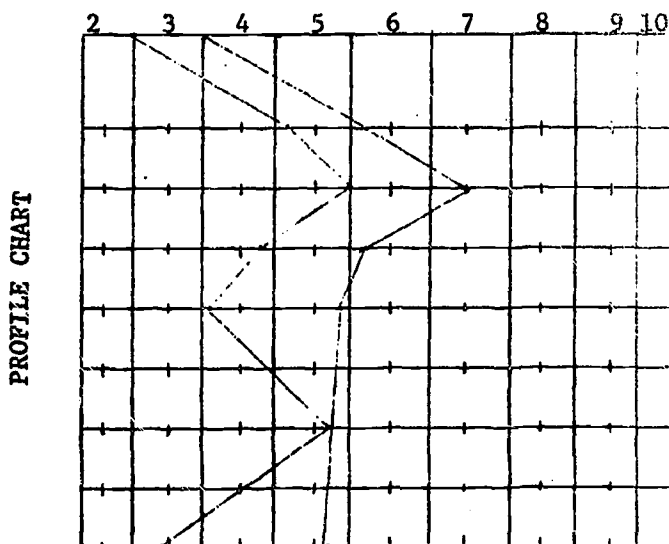
Occupation: Teacher

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	I ₀	I ₁	I ₂	I ₃	I ₄	I ₅	I ₆	I ₇	I ₈	I ₉
Form	1	2								
Year Given										
Month Given	2	2								
Grade in School	3	4								
Test Plcmt. Grade	51	61								
Reading Language Usage	6.0	7.4								
Arith.	4.2	5.9								
Literature										
Social Studies	5.6									
Science										
Spelling	3.4	5.5								

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	10		Calif.	P	52/82	103	136	124



+ Indicates satisfactory growth
Citizenship / Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
th: Days Absent Due to Illness	9	5	13	16				

OFFICIAL CUMULATIVE RECORD

Occupation: Farmer

1 2 3 4 5 6 7 8

PROFILE CHART

1 2 3 4 5 6 7 8

Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	✓			
Attitude Toward Others (Courteous - Rude)	+	+	✓	✓			
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+			
Development of Work Habits (Steady Worker - Carries Little Responsibility)	✓	✓	✓	✓			
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	✓	✓			

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Jeffery Larson

Sex: Male

Age: 10

Parent or Guardian: Keith Larson

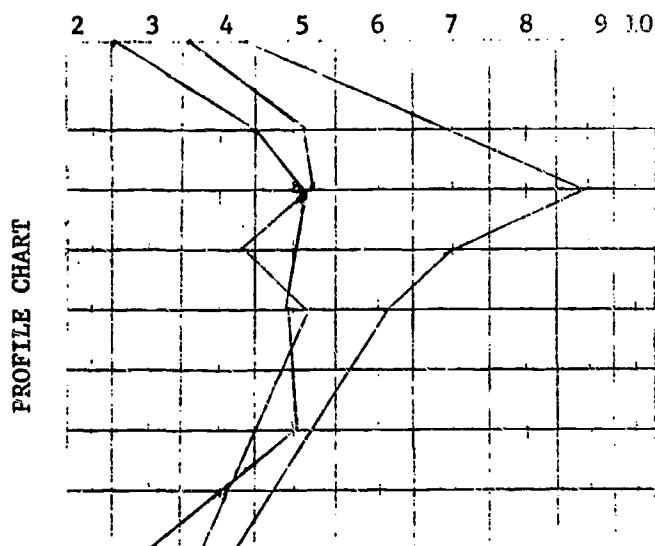
Occupation: College Instructor

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	1	2	3	4	5	6	7	8
Form	1	2	1					
Year Given								
Month Given	2	2	2					
Grade in School	3	4	5					
Test								
Plamt. Grade	5.0	5.7	7.7					
Reading	5.6	5.9	9.5					
Language Usage	5.5	4.9	7.5					
Arith.	5.2	5.5	6.6					
Liter-ature								
Social Studies	5.4							
Science								
Spelling	3.2	4.1	4.9					

Date	Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
	3	10		Calif	P	55-83	10	13.9	139
	5	4		Calif	57-S	49	13	15.1	124



+ Indicates satisfactory growth

✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Days Absent Due to Illness	23	19	10	8				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Steven Logan

Sex: Male

Age: 10

Parent or Guardian: Clarence Logan

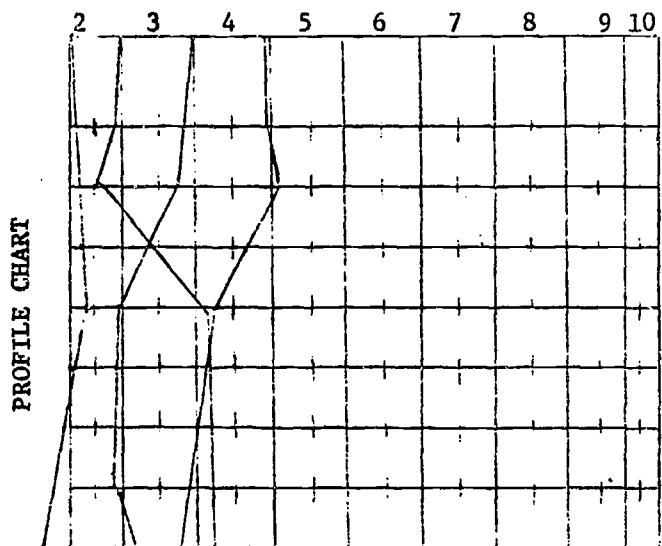
Occupation: Operating Engineer

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	STAN RUL	10 A	10 A	10 A
Form	J	1	2	1
Year Given				
Month Given	4	2	2	2
Grade in School	2	3	4	5
Test Plcmt. Grade	2.0	2.9	3.8	5.0
Reading	2.1	2.3	3.7	5.2
Language Usage		3.2	3.2	3.5
Arith.	2.3	2.9	4.1	4.2
Liter-ature				
Social Studies		2.8		
Science		2.8		
Spelling	1.5	3.3	4.7	3.9

Grd.	Date Mo. Yr.	Mental Test	Form Score	CA	MA	IQ
3	10	Calif	P	106	118	101
5	4	Calif	57-8	34-50	146	155



+ Indicates satisfactory growth
 Citizenship ✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	✓	+	+	+				
Attitude Toward Others (Courteous - Rude)	✓	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	✓	✓	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	✓	✓	✓	✓				
Development of Leadership (Leads Group - Creates Negative Response From Group)	✓	+	✓	+				
Days Absent Due to Illness	10	6	16	3				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Samuel McNeil

Sex: Male

Age: 10

Parent or Guardian: Roger McNeil

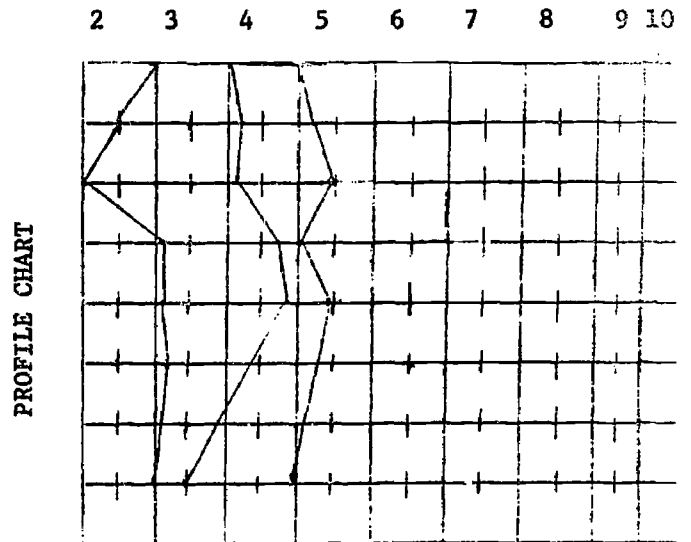
Occupation: College Instructor

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	Form	Year	Month	Grade in School	Test	Plant.	Grade	Reading	Language	Usage	Arith.	Literature	Social	Studies	Science	Spelling
Form	3	2														
Year																
Given																
Month																
Given	2	2	1													
Grade in School	3	4	3	5	5											
Test																
Plant.																
Grade	2.5	4.2	5.4													
Reading	2.0	3.8	5.5													
Language																
Usage	3.1	4.6	5.5													
Arith.	3.2	4.8	5.4													
Literature																
Social																
Studies	3.2															
Science																
Spelling	3.0	3.5	5.0													

Date	Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
	3	3		Stanford			9-	9-	
				Binet	L-M		8	10	94
	3	10		Calif.	P		104	93	
						38-	141		
	5	4		Calif.	57-S	47	139	152	102



	+ Indicates satisfactory growth								
Citizenship	✓ Indicates need for improvement								
Attitude Toward School (Cooperative - Non-cooperative)		1	2	3	4	5	6	7	8
		+	+	+	+				
Attitude Toward Others (Courteous - Rude)		+	✓	+	✓				
Emotional Stability (Well-balanced - Overly Emotional)		+	+	+	+				
Development of Work Habits (Carries Little Responsibility)		+	+	+	✓				
Development of Leadership (Leads Group - Creates Negative Response From Group)		+	+	+	+				
Health: Days Absent Due to Illness		10	9	13	6				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Stanley Phillips

Sex: Male

Age: 10

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

Parent or Guardian: Edward Phillips

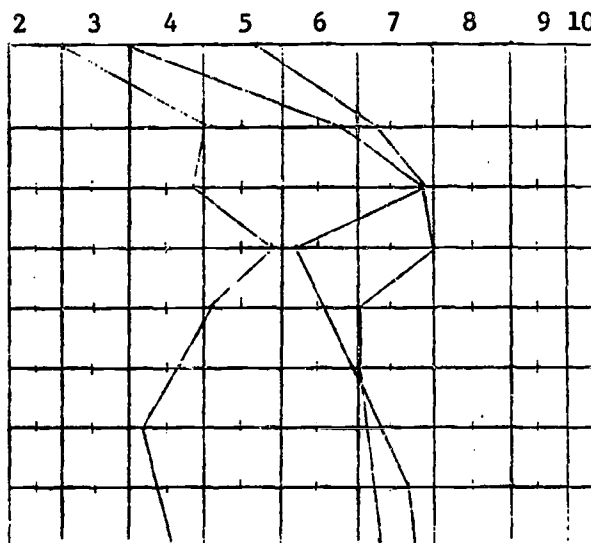
Occupation: Forest Cruiser

✓
(1) 2 3 4 5 6 7 8

Name of Test	I _{CA}	I _{MA}	I _{IQ}						
Form	1	2	1						
Year Given									
Month Given	2	2	2						
Grade in School	3	4	5.5						
Test Plcmt. Grade	5.16.8	7.2							
Reading Language Usage	4.97.9	7.9							
Arith.	5.16.6	7.0							
Literature Social Studies	4.3								
Science									
Spelling	4.57.8	7.3							

Grd.	Date	Mental Test	Form	Score	CA	MA	IQ
3	10	Calif.	P	53-76	107	113	115
5	4	Calif.	57-S	50-49	107	121	113
					163		
					137	151	115

PROFILE CHART



+ Indicates satisfactory growth

Citizenship ✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	/	/				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Days Absent Due to Illness	4	8	2	3				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Lanny Read

Sex: Male

Age: 10

Parent or Guardian: Wesley Reed

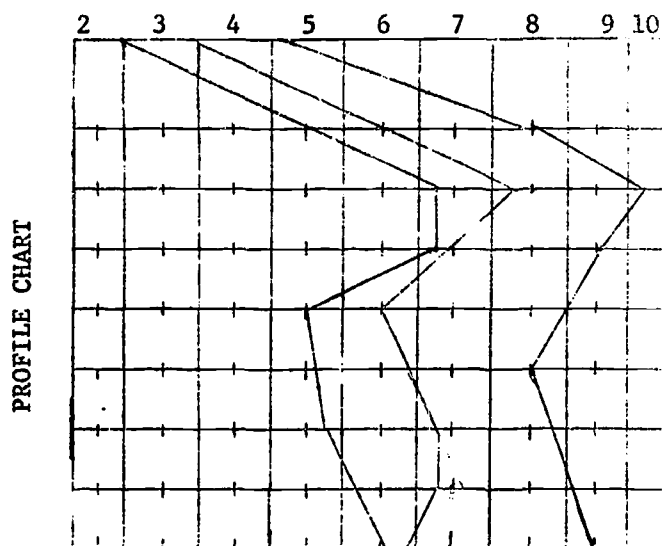
Occupation: High School Principal

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

① 2 3 4 5 6 7 8

Name of Test	IQ W A	IQ W A	IQ W A						
Form	1	1	1						
Year									
Given									
Month									
Given	2	2	2						
Grade in									
School	3	4	5						
Test									
Plamt.									
Grade	6.27	28.6							
Reading	7.38	4.82							
Language									
Usage	7.27	49.6							
Arith.	5.56	47.8							
Liter- ature									
Social									
Studies	5.86	3							
Science		6.3							
Spelling	6.7	68.7.8							

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	10		Calif	P	57-81	106	133	125
5	4		Calif	57-S	58-56	137	198	118



+ Indicates satisfactory growth
 Citizenship ✓ Indicates need for improvement

Attitude Toward School (Cooperative - Non-cooperative)

Attitude Toward Others (Courteous - Rude)

Emotional Stability (Well-balanced - Overly Emotional)

Development of Work Habits (Steady Worker - Carries Little Responsibility)

Development of Leadership (Leads Group - Creates Negative Response From Group)

Days Absent Due to Illness

E-15

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Days Absent Due to Illness	20	1	3	9				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Gwen Stevens

Sex: Female

Age: 10

Parent or Guardian: Harvey Stevens

Occupation: Teacher

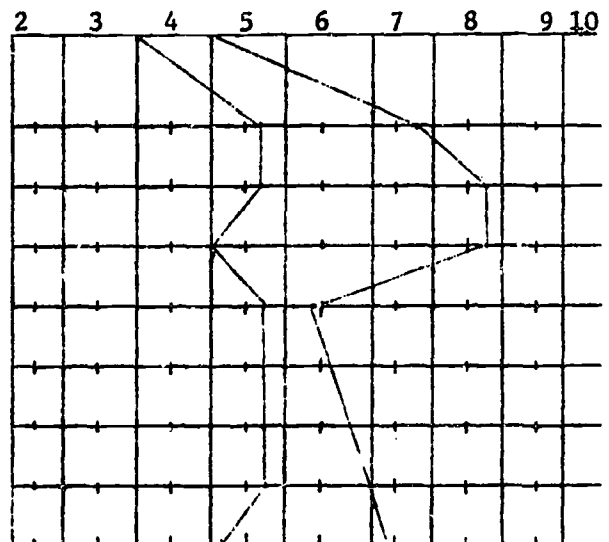
Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 ③ 4 5 6 7 8

Name of Test	I _{WA}	I _{MA}							
Form	1	1							
Year Given									
Month Given	2	2							
Grade in School	4	5							
Test Plcmt. Grade	5.8	8.9							
Reading	5.8	8.8							
Language Usage	5.0	8.8							
Arith.	5.6	6.4							
Literature									
Social Studies	5.8								
Science	5.8								
Spelling	5.2	1.3							

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	2		Calif.	P		87	111	129
4	9		Calif.	E		109	145	135
5	4		Calif.	57-S	53-48	128	169	123

PROFILE CHART



+ Indicates satisfactory growth
 Citizenship / Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Health: Days Absent Due to Illness	11	7	4	2				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: William Swensen

Sex: Male

Age: 10

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

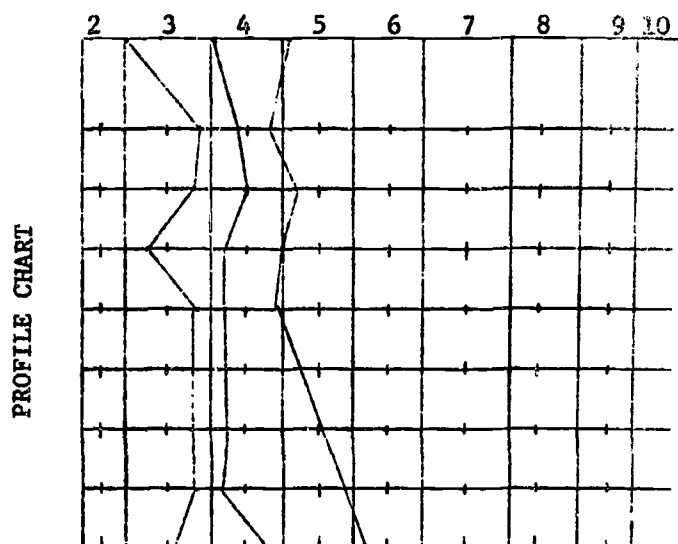
Parent or Guardian: D. L. Swensen

Occupation: Log Truck Driver

1 2 3 4 5 6 7 8

Name of Test	1	2	3	4	5	6	7	8
Form	1	1	1					
Year Given								
Month Given	2	2	2					
Grade in School	3	4	5					
Test Plcmt. Grade	3.8	4.4	4.8					
Reading	3.8	4.5	5.3					
Language Usage	3.4	4.3	5.0					
Arith.	3.8	4.3	4.9					
Literature								
Social Studies	3.8	4.3						
Science	3.8	4.3						
Spelling	3.7	4.6	6.1					

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	10		Calif.	P		109	79	73
4	2		Calif.	P		113	113	102
5	4		Calif.	57-S	29-43	139	126	93



+ Indicates satisfactory growth

Citizenship ✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	✓	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	✓	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Health: Days Absent Due to Illness	7	3	0	0				

OFFICIAL CUMULATIVE RECORD

Sex: Female

Age: 10

Parent or Guardian: Roger Thomas

Occupation: Salesman

1 2 3 4 5 6 7 8

Name of Test	STAN Ach	STAN Ach	7 W A				
Form	W	L	I				
Year							
Given							
Month							
Given	5	4	2				
Grade in							
School	3	4	5				
Test							
Plcmt.							
Grade	5.65	8.6	7				
Reading	5.75	16	4				
Language							
Usage	5.77	9.6	6				
Arith.	4.75	7.7	1				
Liter- ature							
Social Studies							
Science							
Spelling	5.75	6.7	3				

PROFILE CHART

PROFILE CHART

+ Indicates satisfactory growth

Citizenship ✓ Indicates need for improvement

Citizenship	✓	Indicates need for improvement	1	2	3	4	5	6	7	8
Attitude Toward School	(Cooperative - Non-cooperative)	+	+	+	✓					
Attitude Toward Others	(Courteous - Rude)	+	+	+	+					
	Unemotional									
Emotional Stability	(Well-balanced - Overly Emotional)	+	✓	+	✓					
	(Steady Worker -									
Development of Work Habits	Carries Little Responsibility)	+	+	+	+					
	(Leads Group - Creates									
Development of Leadership	Negative Response From Group)	+	+	✓	+					
	E-18									
ERIC: Days Absent Due to Illness		4	3	1	1					

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: James Wagner

Sex: Male

Age: 10

Parent or Guardian: Gerald Wagner

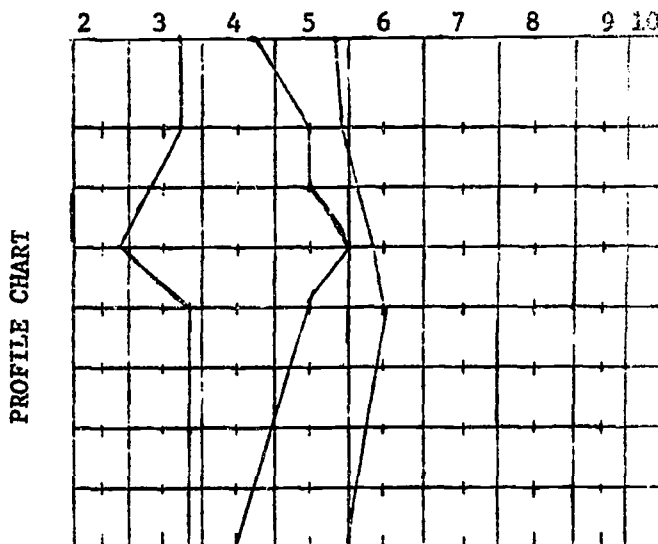
Occupation: Contractor

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

① 2 3 4 5 6 7 8

Name of Test	Stan	Chan	Chan	Chan
	Rel	Rel	Rel	Rel
Form	J-K	J	K	
Year Given				
Month Given	10	4	4	
Grade in School	3.2			
Test	3.8	4.8	5.8	
Plcmt. Grade	2.9			
Reading	3.7	5.5	5.9	
Language Usage	2.7			
	3.4	5.5	6.0	
Arith.	2.8	6.0	4.4	
Liter-ature	2.9			
Social Studies	3.9	5.5	6.8	
Science				
Spelling	2.6			
	3.8	4.5	5.2	

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
1	9		CTMM			119		119
4	10		CTMM			109	113	104



+ Indicates satisfactory growth

Citizenship / Indicates need for improvement.

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	+				
Days Absent Due to Illness	9	1	2	0				

E-19

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Annemarie Wilson

Sex: Female

Age: 9

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

Parent or Guardian: George Wilson

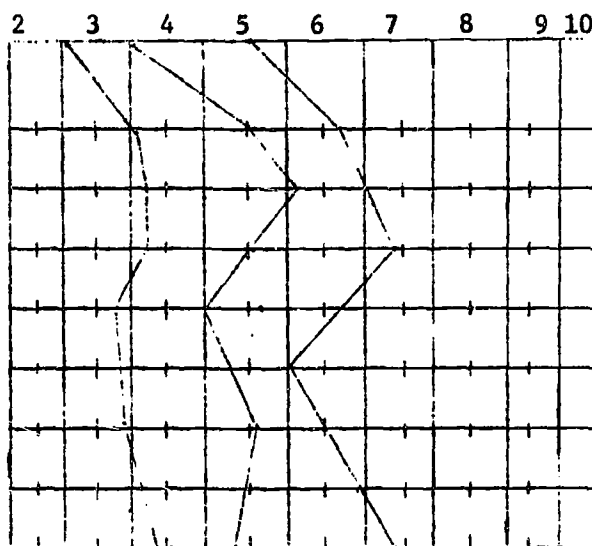
Occupation: College Instructor

① 2 3 4 5 6 7 8

Name of Test	Ic	Iu	Ib	Ic	Iu	Ib
Form	1	1	1			
Year						
Given						
Month						
Given	2	2	2			
Grade in School	3	4	5.5			
Test Plcmt. Grade	4.25	66.7				
Reading	4.46	17.0				
Language Usage	4.35	58.4				
Arith.	3.85	05.6				
Literature						
Social Studies	3.95	6				
Science						
Spelling	4.45	27.3				

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	10		Calif.	P	47-74	98	105	107
5	4		Calif.	57-S	39	128	122	108

PROFILE CHART



+ Indicates satisfactory growth
 Citizenship ✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	+	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	✓				
Development of Work Habits (Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	✓	✓	+				
h: Days Absent Due to Illness	35	4	15	9				

COLLEGE GROVE ELEMENTARY SCHOOL

OFFICIAL CUMULATIVE RECORD

Pupil: Douglas Young

Sex: Male

Age: 10

Parent or Guardian: Kent Young

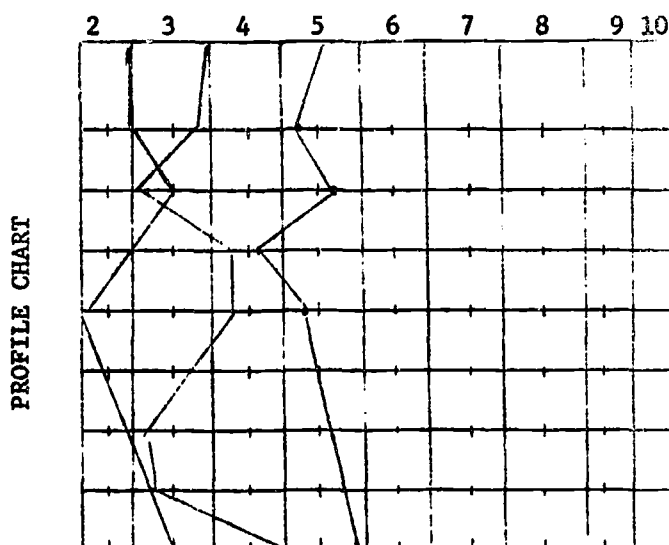
Occupation: Farmer

Indicate child's position in family by circle. Place check above total number of children in family. Underline boys.

1 2 3 4 5 6 7 8

Name of Test	1	2	3	4	5	6	7	8
Form	1	I	1					
Year								
Given								
Month	2	2	2					
Given								
Grade in School	3	4	5.5					
Test								
Plcmt. Grade	2.9	3.8	5.2					
Reading	3.5	3.1	5.6					
Language Usage	2.7	4.3	4.7					
Arith.	2.0	4.1	5.4					
Literature								
Social Studies	2.9	3.4						
Science		3.4						
Spelling	3.5	5.0	5.9					

Grd.	Mo.	Yr.	Mental Test	Form	Score	CA	MA	IQ
3	10		Calif	LC	53	97	91	95
5	4		Calif	57-S	16-40	127	125	129



+ Indicates satisfactory growth
 Citizenship ✓ Indicates need for improvement

	1	2	3	4	5	6	7	8
Attitude Toward School (Cooperative - Non-cooperative)	+	+	+	+				
Attitude Toward Others (Courteous - Rude)	+	✓	+	+				
Emotional Stability (Well-balanced - Overly Emotional)	+	+	+	+				
Development of Work Habits (Steady Worker - Carries Little Responsibility)	+	+	+	+				
Development of Leadership (Leads Group - Creates Negative Response From Group)	+	+	+	✓				
E-21	30	18	12	17				
Days Absent Due to Illness								

Capsule Comments on Each Child

Lee: Lee has considerable ability as a leader. He is a capable student, but has a tendency to concentrate on a single project so completely that his other work may suffer.

Lynette: Lynette is an excellent student. She does her job well and she expects others to do the same. She is independent enough to speak out against anyone who should try to take advantage of her or against some issue which she feels is unfair.

Susan: Susan is a quiet and dependable student. Because of this quality a teacher can unintentionally ignore her during some classroom situations.

Jeff: Quiet and dependable, he frequently works alone as a matter of choice.

Steve: Steve is very alert and is quick to size up a situation. He has a ready sense of humor which is in evidence by the frequent jokes he plays on others.

Sam: Sam lives in a physical world. He is much more robust and mature than the other boys. Consequently, he doesn't receive the physical contact that he prefers. The class tends to follow his actions. Extremely myopic, he has a rather short attention span.

Stan: Here is the all-around athlete of the class. Because of his success on the playground his interests naturally remain there. He does work hard at his studies, however.

Lanny: Lanny is a gregarious boy who has the quality of warming any group or activity that he chooses to join. At the present time his closest friend is Steve.

Gwen: Gwen takes the whole class to her heart. Her warm, helpful manner makes her a friend to all.

Billy: Billy's middle name could be "active", as this is his characteristic behavior, both in and out of the classroom. He broke his foot while mountain climbing.

Kathy: Kathy is rather quiet in her manner. She lacks the necessary confidence to try something alone and seeks the company of others when she faces such situations. She needs continual encouragement and praise.

James: James and Steve are cousins. They are frequently mistaken for twin brothers. A good student and popular, James is more serious than Steve.

Annemarie: Annemarie is a very sensitive girl whose feelings are easily hurt. It is natural for her to seek the company of Susan and Gwen.

Doug: Doug may lack the academic ability of some of the others but he tries to compensate for this by working very hard. He is shy. Because of this he frequently hesitates to speak aloud. When embarrassed, he is prone to avoid eye-contact and mumble.

Appendix F

Field Trial Evaluation Guide

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Field-Trial Evaluation
Guide**

February 1968

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

Introduction

The accompanying materials comprise a complete sample set of the special evaluative instruments to be used in conjunction with the field trial of the Low Cost Instructional Simulation Materials for Teacher Education. Some of the data may be of use in your own local context. More important, the data will be of use to us in our effort to improve the instructional system you have received.

It must be emphasized that the materials you have received are prototypes. They are based on over five years of experience. They have been tried out with limited numbers of students in closely supervised sessions and have undergone several revisions. Yet there are flaws, and they must be detected. The purpose of the field-trial is to assess the value of the materials in actual conditions of use, and to remedy any flaws that are found. It is our conviction that these materials will be of significant value to your institution in their present form. By your willingness to participate in the field-trial, you will provide us with invaluable data that may be used to further improve these materials.

By presenting the evaluation plan in the present form, we hope to make the field-trial data collection as convenient as possible. This booklet provides you with an inventory of all of the instruments, along with suggestions for their administration.

We would like to emphasize the importance to us of obtaining complete identifying information along with each evaluation form. Your care in urging all respondents to fill in all of the identification categories will greatly facilitate our task of data analysis.

Some of the instruments have been adapted from previously designed evaluation forms. In particular, the Student Analysis Form and the Instructional System Form were adapted from Greenhill, L. P. (The Evaluation of Instructional Films by a Trained Panel Using a Film Analysis Form, Technical Report SPECDEV CEN 269-7-57, Pennsylvania State University, University Park, Pennsylvania, Sept., 1955). Other portions of the Instructional System Form were adapted from Edgerton, H. A., et al (The Development of an Evaluation Procedure for Training Aids and Devices, Technical Report SDC 383-2-1 Richardson, Bellows, Henry and Co., Inc., June, 1950).

Instructional System Analysis

This form assesses the technical quality and accuracy of content. This form should be completed by any individual other than a student who comes into contact with the materials. This individual may be a subject matter expert not directly related to the field-trial, an instructor or potential user of the materials, or an expert in instructional systems development.

Low Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

INSTRUCTIONAL SYSTEM ANALYSIS
(To be completed by Instructors, Instructional Systems Experts,
and Subject Matter Experts)

Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Cross out the inappropriate system)

Evaluation: _____

Institution: _____

Date: _____

In what capacity do you believe you are best qualified to make judgments about this instructional system? Place a check beside one of the following alternatives. If you are qualified in more than one respect, number choices to indicate the relative order of your qualifications.

_____ As a subject matter expert.

_____ As an expert in instructional systems development.

_____ As an instructor or potential user of the system.

INSTRUCTIONS

This form has been designed to help you to be objective in judging the instructional value of the system you have been considering. Please read each item carefully and be as objective as possible in making your judgment. The six numbers following each criterion represent a scale or continuum. The extremes of each scale have been identified to aid you in making this choice.

Circle the number which represents your best judgment of the degree to which the system satisfies each criterion.

PLEASE DO NOT OMIT ANY ITEMS -- RATE THE SYSTEM ON EACH CHARACTERISTIC

Note: The first 17 items are classified as being of primary or secondary importance. If the system is rated low on any item of primary importance it should be rejected or radically changed; if rated low on an item of secondary importance, it requires less extreme modification.

1. Are the objectives of the instructional system clear?

PRIMARY

Ambiguous

Clear

1 2 3 4 5 6

2. Will the instructional system attract and hold the interest of the target audience?

PRIMARY

Dull and Boring

Very interesting

1 2 3 4 5 6

3. Does the instructional system build on previous knowledge, skills, or experience of the target audience?

SECONDARY

No relation to and use of
previous knowledge and
training

Integrates system content
and previous experience
very effectively

1 2 3 4 5 6

4. Is the subject matter presented in this instructional system appropriate for the course of training of the target audience?

PRIMARY

Not appropriate

Appropriate

1 2 3 4 5 6

5. Does the content relate directly to the main objectives of the instructional system?

SECONDARY

Unrelated

Clearly related

1 2 3 4 5 6

6. Is the content presented in a well organized, systematic pattern?

PRIMARY

Confused and disorganized

Very well organized

1 2 3 4 5 6

7. Are the important ideas or procedures clearly emphasized?

PRIMARY

Very vague

Stand out clearly

1 2 3 4 5 6

8. Does the instructional system attempt to present too much materials for the intended audience to learn?

SECONDARY

System tries to cover too many points

System presents a learnable amount of information

1 2 3 4 5 6

9. Are new facts, ideas, terminology or procedures introduced at a rate which will permit learning by the target audience?

SECONDARY

Poor rate of development: either too fast or too slow

Effective rate of development neither too fast or too slow

1 2 3 4 5 6

10. Does the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines, etc.)

PRIMARY

Repetition is never used or is used excessively

Repetition is used effectively where appropriate

1 2 3 4 5 6

11. Is the method of presentation (film-tape, manual, etc.) suitable to the subject matter?

SECONDARY

Inappropriate

Appropriate

1 2 3 4 5 6

12. Is the difficulty of the pictorial presentation appropriate considering the characteristics of the target audience? (e.g., age, education level, intelligence, etc.)

SECONDARY

Very inappropriate, either too difficult or too easy

Very appropriate: neither too difficult nor too easy

1 2 3 4 5 6

13. Are the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of closeups, and other technical considerations.)

PRIMARY

Presentation is obscure
or confusing

Presentation is
very clear

1 2 3 4 5 6

14. Is the verbal difficulty of the materials appropriate to the age, educational level, and previous experience of the target audience?

SECONDARY

Very inappropriate: either
too difficult or too easy

Very appropriate: neither
too difficult or too easy

1 2 3 4 5 6

15. Does the narrator(s) contribute to the effectiveness of this system? (i.e., tone of voice, manner of speech, speed of delivery, etc.)

SECONDARY

Detracts

Contributes

1 2 3 4 5 6

16. Is the sound track clearly audible?

PRIMARY

Sound inaudible

Sound clearly audible

1 2 3 4 5 6

17. Is the information presented in the student manual and worksheets well integrated with that presented in the film-tape or motion pictures?

SECONDARY

No integration

Closely integrated

1 2 3 4 5 6

18. Below are seven statements numbered a. through g. Give your overall estimate of the instructional value of the materials by checking one (and only one) of the statements.

_____ a. Students would be handicapped through training with the materials because of bad information or antagonistic attitudes acquired through their use.

_____ b. The materials will not make any difference. Training on the system contributes nothing new to the progress of students in training.

- _____ c. The instructional simulation materials are not really needed. They are no more effective than present practices.
- _____ d. These materials will result in satisfactory trainee achievement, but there are other procedures equally or more effective.
- _____ e. The trainee can attain the desired behaviors in other ways, but all in all these materials will achieve them most effectively.
- _____ f. The materials are very efficient in the use of time, facilities, and personnel. They will provide the desired training.
- _____ g. It is impossible to acquire the desired proficiency (as expressed in the manuals) except by the use of these materials.

Briefly comment on the following items:

19. Does teacher education really need materials such as these. List the cogent arguments for and against the use of these materials on the basis of your personal experience.

20. Suppose that you could purchase these materials in suitable format and quantity to use in your institution. How much would you pay to have them? (Not have much could you pay.)

Up to \$200 _____	}	per system
Up to \$400 _____		
Up to \$600 _____		
Up to \$800 _____		
Up to \$1000 _____		
More that \$1000 _____		

Circle the number which represents your best judgment of the degree to which the system satisfies each criterion.

21. Is the information technically accurate?

Contains many errors

Contains no errors

1

2

3

4

5

6

22. What is the relative importance of the inaccuracies in the instructional system? (If there are no inaccuracies noted, they are logically of little or no importance.)

Of crucial importance

Of little or no importance

1

2

3

4

5

6

23. Is the content of the instructional system up-to-date?

Entirely out-of-date

Entirely up-to-date

1

2

3

4

5

6

24. Is it highly probable that the information or procedures presented in the instructional system will be confirmed by subsequent experience?

No confirmation is possible

Definite confirmation is likely

1

2

3

4

5

6

25. Is it highly probable that the target audience will be able to use or apply the information or procedures presented by the instructional system?

None of the content is likely to be useful

All of the content is likely to be useful

1

2

3

4

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26. Could the subject matter be treated more effectively through some other medium? (e.g., lecture, demonstration, textbook, television.)

The instructional system is much less effective than other means of presenting the subject matter

The instructional system is much more effective than other means of presenting the subject matter

1

2

3

4

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27. Could the subject matter be taught as effectively but more feasibly or economically by some other means?

The instructional system is the least feasible means of presenting the subject matter

The instructional system is the most feasible means of presenting the subject matter

1

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28. Comments:

Implementation Analysis

This analysis form helps the field-trial representative document his institution's use of the materials. We are not concerned about each field-trial center using the materials in exactly the same manner as we are to discover how they are implemented in various conditions, and the problems that are encountered in their use under these situations. We look to your additional comments as a very important source of information upon which to base revisions in the system. This form should be completed by the field-trial representative.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: _____

Institution: _____

Type of course term (check one): Quarter _____; Semester _____;

Other _____
(Specify)

Date: _____

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.
2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.
3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).
7. List the number and type of courses in which the simulation materials were used.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)
2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)
3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.
2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.
3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = _____

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.**

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

3. Additional comments.

Student Attitude Questionnaire

This Thurstone-type attitude questionnaire was developed to assess students' attitudes toward classroom simulation training. It takes but a few minutes to complete and should be given after Phase II Training.

Low Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

STUDENT ATTITUDE QUESTIONNAIRE

Name: _____

Date: _____

Class: _____

Note to Student

This institution is involved in the field-trial of the Instructional Simulation Materials for Teacher Education. One aspect of the overall field-trial concerns students reactions to classroom simulation.

The questionnaire consists of 30 statements of attitude toward the program. Read each statement. Then go back and circle the numbers of the 5 statements which most represent your attitude. Please limit yourself to agreeing with no more than 5 statements. If you wish, you may agree with less than 5 statements.

1. Classroom Simulation does not teach anything.
2. I recommend that as many students as possible should avoid taking Classroom Simulation.
3. Much of Classroom Simulation is just "dead wood".
4. Classroom Simulation should be avoided.
5. Classroom Simulation does not fill a gap in my previous knowledge.
6. Classroom Simulation does not make the teaching process more understandable.
7. Classroom Simulation involves little in the way of original thinking about teaching.
8. Classroom Simulation contributes very little to my fund of knowledge.

- | 9. Classroom Simulation is too easy for me.
- 10. Classroom Simulation is too hard for me.
- | 11. It makes little difference to me whether or not I take simulation training.
- | 12. Classroom Simulation deals very little with theory.
- | 13. I do not feel strongly one way or the other about taking simulation training.
- | 14. Classroom Simulation deals with detailed material.
- | 15. Classroom Simulation is not mainly a memory course.
- | 16. Classroom Simulation deals with concepts and principles rather than facts.
- 17. Classroom Simulation does not duplicate material I have had before.
- | 18. Classroom Simulation does not waste my time.
- | 19. Classroom Simulation has a reputation of being valuable.
- | 20. Classroom Simulation is concerned with practical, down-to-earth matters.
- | 21. Classroom Simulation broadens my outlook.
- | 22. I think I will forget less about what I learned in simulation training than most course work.
- 23. Classroom Simulation helps develop confidence.
- 24. Classroom Simulation is intellectually stimulating.
- | 25. Classroom Simulation will help me improve my actual teaching in the classroom.
- 26. Classroom Simulation is more stimulating than most of the course work I have taken or will take.
- | 27. Classroom Simulation covers material which, for the most part, I consider to be vital and significant.
- 28. Classroom Simulation is more enjoyable than any other course I am taking this semester.
- 29. Classroom Simulation is a great inspiration to me.
- 30. Classroom Simulation is more valuable than any course I am taking this semester.

Student Analysis Form

This evaluative instrument assess the technical quality and appropriateness of the materials. It is similar to the Instructional System Analysis, but the items have been reworded to apply to students. The instrument should be administered to all students after Phase II Training.

Low Cost: Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

STUDENT ANALYSIS FORM

System: Classroom Management / Discovery Teaching
(Cross out the inappropriate system)

Name: _____

Date: _____

Class: _____

Instructions

This form has been designed to help you to be objective in judging the instructional value of the instructional system you have been studying. Please read each item carefully and be as objective as possible in making your judgment. The six numbers following each criterion represent a scale or continuum. The extremes of each scale have been identified to aid you in making this choice. Circle the number which represents your best judgment of the degree to which the film satisfies each criterion.

PLEASE DO NOT OMIT ANY ITEMS -- RATE THE SYSTEM ON EACH CHARACTERISTIC

1. Were the objectives of the instructional system clear to you?

Ambiguous

Clear

1 2 3 4 5 6

2. Did the instructional system attract and hold your interest?

Dull and boring

Very interesting

1 2 3 4 5 6

3. Did the instructional system build on your previous knowledge, skills, or experience?

No relation to and use of
previous knowledge and
training

System content and
previous experience very
effectively related

1 2 3 4 5 6

4. Was the subject matter presented in this instructional system appropriate for your present level of training?

Not appropriate

Very appropriate

1 2 3 4 5 6

5. Did the content relate directly to the main objectives of the instructional system?

Unrelated

Clearly related

1 2 3 4 5 6

6. Was the content presented in a well organized, systematic pattern?

Confused and disorganized

Very well organized

1 2 3 4 5 6

7. Were the important ideas or procedures clearly emphasized?

Very vague

Stand out clearly

1 2 3 4 5 6

8. Did the instructional system attempt to present too much material to be learned at one time?

The system tried to cover too
many points

The system presented a learnable
amount of information

1 2 3 4 5 6

9. Were new facts, ideas, terminology or procedures introduced at a rate which permitted you to learn them?

Poor rate of development:
either too fast or too slow

Effective rate of development
neither too fast nor too slow

1 2 3 4 5 6

10. Did the instructional system provide for adequate repetition of the important content? (e.g., repetition with variation, exact repetition, summaries, outlines. etc.)

Repetition was never used
or was used excessively

Repetition was used effectively
where appropriate

1 2 3 4 5 6

11. Was the method of presentation (film-tape, manual, etc.) suitable to the subject matter?

Inappropriate

Appropriate

1 2 3 4 5 6

12. Was the difficulty of the pictorial presentation appropriate considering your age, educational level, intelligence, etc.?

Very inappropriate, either
too difficult or too easy

Very appropriate: neither
too difficult nor too easy

1 2 3 4 5 6

13. Were the details of the information or demonstration clearly presented pictorially? (This refers to camera angles, lighting, sharpness, exposure, use of closeups, and other technical considerations.)

Presentation was obscure
or confusing

Presentation was
very clear

1 2 3 4 5 6

14. Was the verbal difficulty of the materials appropriate considering your educational level, and previous experience?

Very inappropriate: either
too difficult or too easy

Very appropriate: neither
too difficult nor too easy

1 2 3 4 5 6

15. Did the narrator contribute to the effectiveness of this instructional system? (i.e., tone of voice, manner of speech, or speed of delivery, etc.)

Detracted

Contributed

1 2 3 4 5 6

16. Was the sound track clearly audible?

Sound inaudible

Sound clearly audible

1

2

3

4

5

6

17. Was the information presented in the student manual and student worksheets well integrated with that presented in the film-tape or motion pictures?

No integration

Closely integrated

1

2

3

4

5

6

18. Other comments:

Appendix G

Correspondence to Field Trial Sites

TEACHING RESEARCH

A Division of the Oregon State System of Higher Education

MONMOUTH, OREGON 97361

Telephone (503)838-1220

November 22, 1967

Dr. L. W. Dean
Assistant Dean and Director
School of Teacher Education
Michigan State University
East Lansing, Michigan 48823

Dear Dr. Dean:

We are pleased to inform you that your institution has been selected as one of ten field-trial sites for the new instructional simulation materials now being developed by Teaching Research. The response to our letter of inquiry was overwhelming, and frankly, selection of the sites was indeed difficult. Criteria for selection included consideration of geographic area, size of institution, and mode of Phase II training.

In this letter, we have anticipated some questions that you might have about the field-trial. I am sure that other questions may arise from time to time. Please don't hesitate to contact us.

First, what areas are covered in the simulation materials?

The new materials cover two topics: (1) classroom management and control, and (2) discovery teaching. The Classroom Management package is similar in conception to the original classroom simulation materials originally developed by Dr. Bert Y. Kersh. The Discovery Teaching materials are brand new, and are subject-matter oriented.

How many sets of materials will we receive?

For each of the two packages, Classroom Management and Discovery Teaching, we will furnish for Phase I training either one slide-tape presentation or up to three Audiscan synchronized film-tape cartridges (more on the Audiscan System below). For Phase II training, we will furnish one set of materials to institutions using either Modes A or B, and up to two sets for institutions who desire to use Mode C (Self-instructional mode). We realize that for larger institutions, two sets of materials may be inadequate for training large numbers of students, but we are limited by budgetary considerations.

Can we test more than one mode?

Yes, but only within the limitations of the material given to you. For example, if you wish to try the Self-instructional mode (Mode C), Phase II training materials would be furnished in 8mm. If you also wish to try out the Group Discussion mode (Mode B), you would have to use an 8mm projector for this training. Materials for Mode B and C are entirely compatible for Phase II training. I should point out, however, that the materials for Mode A (Tutorial mode) are not compatible with materials for Modes B and C.

Can we buy additional sets of materials if we wish to train students on a larger scale than is possible with the materials furnished?

Yes, you can purchase additional materials at our cost.

What equipment is needed for each phase of training?

Enclosed with this letter are specifications for equipment that might be used in the field-trial. As mentioned above, Phase I materials will be furnished in one of two ways: 35mm slides and a synchronized tape recording, or 16mm film and tape recording packaged in a cartridge to be used with the Audiscan System. After examining the many synchronized audio-visual systems on the market, we feel that the Audiscan completely fulfills our requirements at this time (see enclosed brochure). If your institution prefers not to use the Audiscan System and would rather use existing components such as a Carousel projector, tape recorder and programmer, this will certainly be satisfactory. Frankly, this will offer us an opportunity to test the feasibility of each system under actual training conditions. As noted above, we can furnish only one slide-tape package, but up to three Audiscan System packages, mainly because of the price differential in the cost of materials.

Can you estimate training time for us?

We estimate that approximately ten hours each will be required for the Classroom Management package and the Discovery Teaching package. This estimate will vary depending upon the mode chosen, the student, and to some extent, the way in which you use the materials.

Dr. L. W. Dean

-3-

November 22, 1967

Can we adapt Phase I materials for small group use? We have limited funds and can only purchase one of the Audiscan System projectors.

We don't know whether Phase I materials, which are designed for self-instructional use, may be adapted for small group use. We suspect it is possible, but we do not know if it is feasible. Our answer is - try it and see if it works.

If, for any reason, you're unable to accept our invitation to participate in the field-trial, please notify us immediately so we may select an alternate participant. For your information, the ten participating institutions have been listed in an enclosure. As explained in the previous letter, one person from each institution will be invited to attend a workshop-conference at Oregon College of Education early next year. We have set a tentative date for February 1 through 3, 1968 (Thursday, Friday, and Saturday a.m.). Please let us know whether these dates are satisfactory. The purpose of the workshop-conference is to orient each representative to instructional simulation as a teaching technique, to train each representative in the use of the materials, and to discuss the conceptual framework and background of the subject-matter content.

Again, we wish to express our gratitude for your interest in classroom simulation. We're confident that the field-trial experience will be meaningful and rewarding, both for your institution as well as for us. If any questions arise, please do not hesitate to call on us. We shall be in touch from time to time as the evaluation methods are finalized and the workshop-conference travel arrangements are made.

Sincerely,

Paul A. Twelker
Director, Instructional Simulation Program

PAT:bl
Encs.

cc: Dr. Robert Schmatz
Dr. Charles F. Schuller

TEACHING RESEARCH

A Division of the Oregon State System of Higher Education

MONMOUTH, OREGON 97361

Telephone (503)838-1220

September 18, 1967

Dr. Charles F. Schuller
Director, Instructional Media Center
Michigan State University
East Lansing, Michigan

Dear Dr. Schuller:

The Classroom Simulation Project, under a Federal grant program, has been producing new instructional simulation materials for use in elementary teacher education programs. The new simulation materials are modeled after the Classroom Simulation materials developed originally by Dr. Bert Y. Kersh, but are designed to be used in conventional classroom or laboratory settings as well as in the special research laboratory described in previously published reports.

Now we wish to enlist the cooperation of ten institutions throughout the country to complete a limited field trial of the new low-cost materials. The data from these field trials will be used to revise the materials in preparation for final production and distribution on a wide scale. The purpose of this letter is to outline the commitment to each participating institution, as well as the benefits that will accrue from field-testing the materials.

Each participating institution will be provided a complete set of materials. These materials will be loaned at no charge to the institution for one year. Further, one person from each institution will be invited to attend a workshop-conference at Oregon College of Education in January, 1968, for special training in the use of the Classroom Simulation materials. All travel and per diem expenses will be paid for by Teaching Research. Close contact will be kept with the institutions throughout the field-trial to assure that useful data is being collected that will serve as a basis for possible revision of the material. In addition, if the institution desires to mount a research project involving simulation, the project staff will cooperate to the fullest extent possible. Already, a research development activity effort is underway that will specify important research hypotheses as possible among the institutions conducting field trials.

On the other hand, institutions involved in the field trial will be expected to: (1) furnish any equipment required in the presentation of the materials, (2) to keep accurate records of student performance and evaluation and (3) to submit periodic evaluation reports as required. The first point may require some clarification. The extent to which equipment

is required depends upon the mode of presentation of the simulation materials. The materials are divided into two phases. Phase I is self-instructional and requires a synchronized slide-tape presentation device. In its most elementary form, it might include an inexpensive slide projector, tape playback unit, and an electronic programmer that will change the slides automatically from pre-programmed impulses on the tape.

Phase II of training may involve one of three different modes.

Mode A. The tutorial mode uses three 16 mm motion picture projectors, a special control system to synchronize the projectors, and a large rear screen that permits the student to enact his responses "live" in front of the screen. This particular system is rather expensive, and requires about \$4,000.00 worth of equipment. In addition, a staff member is required to act as the tutor, a job that is quite time consuming if large numbers of students are trained.

Mode B. The second mode that might be used in Phase II training involves the showing of the problematic episodes in an ordinary classroom situation, using the episodes as a point of discussion. In this case, only one 16 mm motion picture projector is required. Institutions with limited funds or access to equipment, might choose this mode of training for Phase II materials.

Mode C. A most promising approach is represented by a third mode -- the "open laboratory" approach. The open laboratory features student study carrels equipped with 8 mm cartridge-loading, sound motion picture projectors. The student writes or records his responses to the episodes rather than enacting them, as in the tutorial mode. A tutor, located in the laboratory or an adjoining room, should be available to answer any questions that might arise which are not answered by the self-instructional program that the student works through. Even with a small number of study carrels equipped with such equipment, it is conceivable that a large number of students could be trained, since they may come and go on an unscheduled basis.

It is expected that the field trial will be conducted over several terms to establish a reasonably large data base from which to revise the materials. Periodically, reports will be returned to Teaching Research that will allow us to begin revision of the materials soon after the beginning of the field trial at each institution. These reports will be brief, and time spent in preparation will be minimal.

Many institutions have expressed interest in conducting a field trial of these materials. It is evident that teacher-educators throughout the country recognize the need for materials of this type. It is our desire that these materials be disseminated as rapidly as possible, but not until they have been tried out under actual training conditions in a variety of institutions. We believe that the materials as they have been developed

Mr. Charles F. Schuller

-3-

September 18, 1967

to this point will be of immense value to you, and that they will be a valuable supplement to your program. The data secured from the field trials will serve to refine these materials even more, and will make it possible for us to anticipate problems that might arise in their use on a wide-scale basis.

If your institution desires to be considered as a field trial site, please complete the enclosed questionnaire and return it at your earliest convenience. Selection of field trial sites will be announced in November, 1968. If there are any questions please do not hesitate to contact us in writing or by telephone.

Sincerely,

Paul A. Twelker
Director
Simulation Systems Program

PAT/tk
Enc. 1

Low-Cost Simulation Project
Field-Trial Questionnaire
Teaching Research Division
Monmouth, Oregon

1. How many full-time students are enrolled in your institution? _____
2. How many students are enrolled in the elementary-education program? _____
3. How many students graduate from the elementary teacher education program each year? _____
4. Three modes will be field tested: the tutorial method, the self instructional methods, and the group discussion method. These have been explained in the accompanying letter. Which of these modes is your institution interested in employing?

5. Who will be the instructor(s) directly responsible for the field test at your institution?

6. Questions and comments:

Appendix H

Classroom Management

Workshop Conference Schedule

LOW-COST INSTRUCTIONAL SIMULATION MATERIALS FOR TEACHER EDUCATION

Workshop Conference

Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon

SCHEDULE

THURSDAY, FEBRUARY 1, 1968

8:30 a.m.	Arrive, Teaching Research
8:45	Introductions and Welcome Dr. Jack V. Edling, Director, Teaching Research Dr. Bert Y. Kersh, Dean of Faculty, Oregon College of Education
9:00	Overview of the Workshop-Conference Activities Discussion of the Low-Cost Instructional Simulation Materials
10:00	Demonstration and Small Group Study of the Classroom Management Package
12:00	Luncheon, Blue Garden Restaurant
1:30 p.m.	Continued Study of the Classroom Management Package (Individual and small group)
4:00	Discussion of the Classroom Management Package
6:00	Dinner, Oak Knoll Golf Club
8:30	Optional Activities, Marion Motor Hotel Consultation on Research-Development Projects in Simulation with Teaching Research Staff

FRIDAY, FEBRUARY 2, 1968

9:00 a.m.	Arrive, Teaching Research
9:15	Demonstration of the Classroom Simulation Facility (Demo Mode B) Wrap-up Activities with the Classroom Management Package Victor Lund
12:00	Luncheon, Blue Garden Restaurant

FRIDAY (CONT)

1:30 p.m. Discussion and Demonstration of the Discovery Teaching Package
Jack Crawford, Sidney Micek, and H. Del Schalock backup

6:00 Dinner, Marion Motor Hotel

8:00 Optional Activities
Showing of Motion Picture, "Of Men and Machines"
Consultation Period
Jack Crawford

SATURDAY, FEBRUARY 3, 1968

9:00 a.m. Arrive, Teaching Research

9:15 Discussion of the Implementation of the Simulation Materials in the Institution
Discussion of the Field-Trial Evaluation Procedures

12:00 Adjournment (surface transportation to Portland Airport provided)

Notes:

1) On display during the workshop will be recent Teaching Research publications on simulation and other topics. Also available for your use will be a file of journal reprints and reports on simulation and related topics.

2) Additional consulting and discussion may be scheduled at the February AERA meetings in Chicago.

3) All group meetings will be in the Teaching Research Automated Classroom, Room 211 of the Education Building, Oregon College of Education campus.

4) Telephone calls may be received or placed through the Teaching Research receptionist, (503) 838-1220, ext. 391.

ROSTER OF PARTICIPANTS

Robert Albritton	Oregon College of Education
Hugh Baird	Brigham Young University
Paul E. Beals	Shippensburg State College
Jack H. Bond	W. Virginia University
J. Arthur Keith, William Lacey	University of Oregon
James A. Phillips, Jr.	Kent State University
Glenn Stofka	State University College at Brockport
Robert Schmatz	Michigan State University
Arnold Slan	Illinois State University
O.L. Davis	University of Texas

WORKSHOP CONFERENCE STAFF

H. Del Schalock	Jack Crawford
Sidney Micek	Edward Palmer
Victor Lund	Eileen Williams
Milford Jones	Warren Welch
Paul A. Twelker	

Appendix I

**Excerpts from Discovery Teaching
Workshop Conference**

Excerpts from Conference Summary Paper by Dr. J.A. Easley, Jr. *

On the characteristics of teaching by discovery and teaching by exposition ...

"Both exposition and teaching by discovery may be analyzed as means of promoting the understanding of particular concepts or principles when they are done well. What often happens, however, is that the students learn an unintended concept or principle which is correlated with one of the intended ones in the sense that it is consistent with a high proportion of the examples and statements given in the lesson (Dulaney, 1969). Students have then misunderstood the intent of the lesson in some particular way. Particular misunderstandings should be preventable by careful choice of examples and statements."

"Learning to discover requires only a modicum of learning by discovery."

"Teaching by discovery, however the boundary disputes may turn out, will, I hope, include procedures in which students participate overtly in content development and themselves propose and carry out strategic steps in resolving puzzles."

"The cycle of the teacher's actions is controlled by the pupils' response. There is a feedback loop operating with a time delay of only seconds (or perhaps a minute or two) as contrasted with feedback, it would provide another interesting dimension to the conceptual space in which teaching methods can be related and contrasted."

On the definition of discovery teaching ...

"The absence of a clear definition of teaching by discovery does not disturb me at this stage of the game, for definitions can only be arbitrary unless they are the outcome of long, exploratory research."

On adaptive systems ...

"It is my belief that teaching by discovery is likely to create more of an adaptive system than teaching by exposition. An adaptive system requires feedback of information regarding progress, but the characteristics of the feedback must be such as to prevent the 'oscillations' that are likely to occur. Monologists work on smiles and frowns and their vocal equivalents as feedback. But how do you interpret a student's smile when a mathematics problem has been posed? There are so many patterns of limited generalization he might have discovered building on the thinking that had been going on--one must find out which pattern a student has. One must get students to talk,

* From "Remarks on Exposition vs Teaching by Discovery", Urbana, Illinois: College of Education, University of Illinois, October, 1966.

to write on the board, or at least indicate agreement or disagreement, with specific proposals. One must also have a good working acquaintance with common misconceptions students have of this subject and a ready ability to generate critical examples that produce distinctive responses by students harboring one or another of the possible interpretations."

"One of the greatest advantages of a technique of teaching based on immediate feedback from individuals (but perhaps most teaching by discovery doesn't approach this) is that it can be adaptive to individual differences among students--not just in the sense that all students are appropriately occupied and challenged."

On the input-output ratios ...

"I have stressed the values of feedback in teaching by discovery, but I don't wish to suggest that teaching by discovery necessarily requires a high ratio of input to output rates of information flow for a teacher. (There are cases in which this ratio could be low, i.e., the teacher can let students monitor their own data and, if successfully managed, such techniques of teaching by discovery can reduce input to the teacher for long periods of time.) However, the relatively rapid cyclical flow of information to and from the student is a general characteristic in most teaching by discovery that interests me. Even if other students are used as monitors, to ensure that the flow of information is large enough in the monitor channels, a teacher has to participate in the cycle from time to time."

"Robert Davis has pointed out at this conference some general categories in which a teacher's repertoire might be organized. However, he has also made the point that interesting things keep happening in his classes which he doesn't understand until afterwards. This suggests that he is not merely choosing among the branches of a previously developed "lesson plan," on the basis of on-the-spot evaluation of learning, but that he is creating new branches in his program on the spot. (If computers should ever do this successfully, we might have to admit them as our intellectual equals.)

This characteristic of most talented discovery teaching I have called 'provocative feedback.' (Easley 1964) The feedback has the quality of providing the teacher into abandoning his current teaching tactic (and often his strategy as well) and striking out in search of some more attractive possibilities. What makes the information input provocative is a conceptual apparatus of the teacher that is tuned to what the students are thinking but against a background of the possibilities of thought. Provocative feedback, as opposed to feedback that is limited to information about which of the anticipated right and wrong responses are being made, makes possible the emergence of individual teaching styles. But it tends to make the achievement of particular learnings even less predictable. Teachers will find

themselves continually adopting new objectives as new possibilities appear. There are real dangers in the direction for capriciousness but real opportunities for creative curriculum development.

Excerpts from Writings of Dr. Robert B. Davis*

Note: Dr. Davis' remarks at the conference are represented in several writings, the most concise and informative being the article included to in the footnote. For purposes of understanding Dr. Davis' contributions to the conference, several excerpts are noted below.

On informal exploratory experiences ...

"In general, there are two kinds of experiences which we provide for the children: experiences where children do something, and experiences where a 'seminar' of children discuss something under the leadership of a teacher. Both kinds of experiences are so different from usual 'mathematics lessons' that we have had to give them a distinctive name--informal exploratory experiences--in self-protection against unsympathetic observers who have told us 'Why, there was no teaching in that lesson!'"

On experience lessons ...

"In these lessons, which we refer to as 'experience' lessons, the children (at the 4th or 5th grade level in most cases) are shown pictures of angles drawn on the blackboard, asked to guess the measure of the angle (in degrees), and thereafter check their guesses by trying to measure the angle with a protractor, or with pie-shaped 'units' (circular sectors of 10° central angle). They do 'right-face,' 'about-face,' and other turns with their own bodies (including turns through 30° , -30° , 360° , 720° , and so forth), and rotate wheels through specified angles (of positive or negative measure). This kind of thing we refer to as 'experience with angles'. In a sense those observers are right who say, 'Why, there was no teaching in that lesson!' We believe there was, however, considerable learning. The teacher has tried to bring the children into a direct face-to-face confrontation with the mathematics itself."

On seminar discussion lessons ...

"Students who are already familiar with the structure of the rational numbers, and who know how to add and multiply matrices, are asked to explore the algebraic structure of the system of 2-by-2 matrices. (Grade level: 5 through 9, inclusive.) The point of the lesson might be stated as follows: in their previous work with the structure of the system of rational numbers, the children were getting experience in 'exploring an unknown mathematical terrain.' We now want to see how surefootedly they can go about the task of exploring another new mathematical terrain. The hope is that the children will know what kind of questions to ask, and what kind of answers to seek, as well as how to find these answers ... Obviously, where the

* From "The Madison Project's Approach to a Theory of Instruction", Journal of Research in Science Teaching, Vol. 2, 1964, 146-162.

children falter, the teacher tries to step in as unobtrusively as possible.

One way the teacher may do this is by making a suggestion that is, in fact, inappropriate. In the process of explaining to the teacher why the teacher's suggestion is inappropriate, the students are, of course, forced to peer more deeply into the mathematical structure itself. Once again, the teacher has tried to remove himself from the role of middleman: he has tried to step out of the way and let the child look directly at the mathematical structure itself.

Criteria for choosing mathematical experiences

Adequate previous readiness. "We try to make sure that, prior to the lesson in question, the children have had enough previous experience with essential ideas or techniques so that the desired new learning will be able to take place.

Relation to fundamental ideas. "We do not wish to squander valuable momentum by a relatively unprofitable exploration of by-ways. Consequently, we make up a list of (what appear to us to be) fundamental concepts and techniques.

Active role for the student. "By this we mean to include activities such as problem-solving, arguing, criticizing, etc., as well as activities such as measuring, estimating, or performing an experiment. We believe that many children fail in mathematics because they assume too passive a role. In order to avoid this danger (which, in our view, is very great) we almost never lecture, and we make very little use of required reading of routine material.

Learning concepts in context. "All of the paraphernalia of science or mathematics--concepts, equipment, data, techniques, even attitudes and expectations--arise out of the act of tackling problems and arise out of inquiry. We want the concepts which the students form to arise in this same way. We believe this gives the ideas a different kind of meaning than they would have if they had sprung full-grown from the head of the teacher."

Necessity for interesting patterns. "~~We~~ want the students to form the habit of questioning even when there are no explicit external cues suggesting that they question. We wish them to be in the habit of asking: Did that really work? Can we extend it? When does it work? When would it fail? Is there a better way to do it?"

Experience-age match. "This may seem to go without saying, but in ordinary education this precept seems honored mainly by non-compliance."

Worthwhile experiences. "By ~~this~~ we mean that the teacher (or other observer) must feel that the lesson, the day, the week, the year have each made their proper contribution to the child's growth

toward mathematical maturity and sophistication."

On flexibly-programmed discussion sequences ...

"In our 'experience' lessons we structure the situation as little as possible. (In practice, we sometimes structure it too little and sometimes too much.) In our 'seminar discussion' lessons there is at once an appearance of great flexibility. After wondering about this seeming paradox for some time, we have come to believe that the 'good' Madison Project teacher possesses in his head the ability to construct suitably designed 'branching programs' at a moment's notice."

On reinforcement schedules ...

"Psychologists observing Madison Project lessons have repeatedly emphasized the quite unusual use (or non-use) of reinforcement schedules in Project classes. We should admit at the outset that we use the ordinary 'rewards' such as praise and affectionate warmth, etc. in securing reasonable social behavior. We try never, however, to use a teacher-imposed external reinforcement schedule to determine what a child thinks, how he answers a question, or how he attacks a problem."

On autonomous decision procedures ...

"We believe that the child should, everywhere possible, have a method for telling whether an answer is right or wrong that is independent of the teacher and independent of the textbook. For physical scientists the laboratory ostensibly fills this need. For mature mathematicians, logic ostensibly fills this need. We have tried to fill this need in the earlier grades by using counting to verify work in arithmetic, and in later grades we try to provide multiple methods for solving problems as one way to decide correctness (that is, by the agreement or disagreement of results obtained by different methods). As a second 'autonomous decision procedure' we try to provide models, as in the case of 'postman stories' for the arithmetic of signed numbers."

On degree of autonomous control ...

"We also believe that the more freedom we can give the children, the more easily we can maintain a really high level of motivation ... The nature of 'freedom' has puzzled mankind for a long time, and I do not claim that we understand it. We can, however, say that when a child feels that a task is artificial, capriciously (or thoughtlessly) imposed by the teacher, he does not usually regard it as a serious challenge. Where (as usually, in our work) the task is determined by the teacher, the greater the extent to which a child is free to define his own method of attack, to define the 'boundary conditions,' and to define for himself what shall constitute an acceptable answer, the more he is inclined to take the whole matter seriously."

On assimilation and accomodation ...

" ... an orientation based upon the notion of the gradual modification of the individual's internal cognitive structure appears to us as highly appropriate for studying the learning of mathematics. This is the kind of task with which the math teacher and the math learner is confronted."

"We, as teachers, often think of assimilation and accommodation in terms of the task of learning to find your way around a strange city. At first there is so little cognitive structure that you cannot make sense out of directions, observations, etc. Presently one builds up such basic concepts as a knowledge of the principle streets and main landmarks. One can either extend the picture by introducing additional detail, or when 'paradoxes' are encountered, modify the picture by removing major errors that, previously unnoticed, have suddenly become important."

"We learn by successive approximations, and there is no final and absolutely perfect 'ultimate version' in any of our minds. We are wrong, but we can learn; having learned, we shall still be wrong, but less so; and, after that, we can still develop a yet more accurate cognitive representation, within our minds, for the various structures that exist independently of our minds."

On shortcutting ...

" ... if one states a specific set of really explicit objectives for an educational experience, this list seems always to be significantly incomplete: it is always possible to meet all of the stated requirements, without actually achieving what was really desired."

"At present we feel that any approach which depends upon a specific listing of objectives, however rational this may seem, is in fact an open invitation to somehow losing sight of the subtle, but unstated values which are the real point of it all."

On learning by discovery ...

"I feel sure that disagreement over the nature and value of discovery is rooted mainly in disagreement over values. If one thinks of arithmetic as a routine skill which the student should master--if this view is uppermost in your mind--then you will probably find no advantage in teaching by discovery."

Excerpts from Remarks of Dr. Shepard White

On the term, "discovery" ...

"My concern, really, when I came here was to try to make some sense out of this big hairy man--this word called 'discovery.' It's a wonderful word--we all like it and within a period of five years half the people in America have become discovery teachers who have never thought of that before. There's a lot of excitement about it and yet we don't know what it is. Some of us here were at a previous conference where 20 experts sat around for five days and tossed the word 'discovery' back and forth, and at the conclusion, our reward for five days of work was a unanimous vote that the word discovery be chucked out the window, that it could not be defined--which is kind of nice, because rarely are our conferences so unanimous."

"It's a nice nonauthoritarian word--it implies a kind of freedom from rigidity that we think is good. And I think also that on a very personal level most of us remember that some of the happiest educational experiences we have had--the one or two things we remember significant in our own education--were often cases where we discovered something. It is a very strong part of personal reminiscences of education."

On education through discovery ...

"The teacher never presents the generalization of the pattern first. The child in effect is led--he is probably hemmed in, but he is in effect led--to sequentially discover the material for himself. The sequence is one where the generalizations come from the child. Now this--I'm not sure--may only be ideally possible in mathematics. Most every subject, social studies and science and so forth, are not quite so logical and not quite so deductive. You have to present a great deal of content. And discovery has to be something different, perhaps in these areas. For one thing, if one were to take seriously the notion of teaching physics entirely through discovery, you would in effect be asking the child to rediscover the history of physical thought; or in effect, generate the atomic theory, or generate all of the notions of physics on which a traditional high school physics course, for example, leans. I think that discovery can be a kind of salt and pepper for the educational process."

On discovering content vs discovering how to discover ...

"I think that in most subject matter areas the important thing is not so much to have the child discover his way through the curriculum but in effect to learn something about how to discover for himself; training the child to make discoveries, rather than in effect trying to provide a complete education for him via discovery."

On strategies of encouraging discovery in children ...

"We have a series of strategies or tactics which we have put under three headings. These are my minutes for the meeting and they are quite open to controversy, I assure you, but they represent my summary of what I think was said. Three general considerations--three general headings:

- 1) We were talking a great deal about the atmosphere in which teaching must be framed; that is, what kind of an atmosphere must a teacher create in order to permit discoveries to occur?
- 2) What kinds of general training--what kinds of general strategies--might the teacher encourage in students which would permit them, in effect, to be innovative or creative? ...
- 3) When a child is on the verge of making a discovery, or there is a case where the child can invent, what can you do until the discovery comes? What are specific helps that one can provide for the child at that crucial instance?"

On atmosphere ...

"... the thing that interests me most of all is the term 'nonpunitiveness.' By that I mean the notion that, if you're going to allow the child freedom to wander around and discover, you have to make it as easy for him to be wrong as it is for him to be right. The freedom to discover implies, nearly always, certain dangers. The child may, in effect, come up with silly ludicrous, half-baked answers or wrong discoveries ..., and there has got to be some kind of restraint if there is any inclination at all to publish answers or to point out that errors are serious and will not be permitted."

"Discovery is intimately connected with finding pattern and order in events; looking at experience and finding undiscovered or unsuspected patterns. There is something that I call the 'esthetics of order,' or the 'elegance of order.' Children have got to appreciate how nice it is to see patterns."

On general training ...

"By general training I mean teaching kids to pay attention to detail--to look at things closely. This is a very basic strategy involved in discovery. A great many times a fellow who comes up with something new, comes up with it not because he looks at something new, but because he looks at things that people have been looking at for a long time, and he looks a little harder or he looks a second or third time."

Other categories of general training

Attention to anomalies

Attention to pattern and order
Attention to recurrent common elements
Attention to an orderly plan of search
Attention to "messing around"

On surprise ...

"Lieman took a group of retarded kids who had not solved, for one thousand trials, one simple problem. He tried a number of strategies including putting words on the stimuli--all the things one might think of. He found the thing that worked best for him in getting these kids to shift from a bad strategy to a good one was to once, for one trial only, put in a new stimulus that the child had never seen and had no meaning. This, in effect surprised the child. Then on the next pattern he went back to the problem and he had the kids solving it. So I think that surprise--or arousal--or in effect, little microemotions is organic in the process of learning."

"When you run experiments I have been very frustrated by the fact that slide projectors only hold 40 slides. So you have to change slides. Now we keep up a pretty good pace of trials when you teach a child a problem. I've run into the most interesting thing when you have to change slides. When you've tried and stopped, and you take a couple of extra minutes, and then you put in another slide box and you're ready to go again. At that point, at least this seems clear to me in my experience and the experience of others who have run one, that the kids who are about to solve but do not solve and visa versa--kids who are at the point but who have not been solving, suddenly reach a solution."

"I think in effect that if one wants to talk about attention as a focusing on a stimulus or on a pattern, then there is a gear shift mechanism. The gear shift mechanisms provide the commas and the periods. In effect, they change tack or sign for the child. This is a surprise experience. Logic is discovery...whenever people talk about discovery, they talk about excitement. There is always a component of emotion in it. I lean very heavily on that. I think the orienting reflex and emotional reactivity in general, interplay with learning."

On discovery of detail ...

"Graduate education leads people to become insensitive to detail. The guys who hit the homeruns in this business are not necessarily the guys who look at anything new, but sometimes the guys who look at things in fine detail which people have been seeing all the time. This is most striking to me. There is an account of Freud. Now you would think that the last guy in the world who was detailed--who was in effect one for looking for detail--would be this globular guy like Freud. There is a comment in Ernest John's biography of Freud that says how impressed he was when he first read Freud, that all of these little statements that people made that he had thought were just nonsense, had a logic to them."

Appendix J

Discovery Teaching

Student Manual,

Phase I

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Phase I; Discovery Techniques
Student Manual**

**Revised
July, 1970**

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

Foreword

Many individuals contributed to both the content and the format of the manual: Dr. Jack Crawford, Mr. Jim Buck, Mr. Sidney Micek, and Mr. John Bond were responsible for the initial work. However, the one person that is most responsible for revising and extending the initial work is Mr. Donald Kohl.

P.A.T.

Phase I: Discovery Learning and Discovery Teaching

Introduction

- Three Roles of a Teacher**
- Focus**
- Orientation to System**
- Limitations of the System**
- Instructions**

Part 1: Characteristics of Discovery Learning and Teaching

- Introduction**
- Three Major Characteristics of Discovery Learning**
- Four Major Characteristics of Discovery Teaching**

Part 2: Discriminating Discovery Learning and Teaching

- Introduction**
- Exercises in Differentiation**

Part 3: Purpose of Discovery Learning/Discovery Teaching

Part 4: Discovery Teaching Springboards

INTRODUCTION

An elementary teacher plays at least three major roles. He is an instructor. He is a therapist. He is a group manager.

In his role as instructor the teacher develops the pupil's knowledge, attitudes, and skills in languages, mathematics, social studies, science, music, art, and physical education.

In his role as therapist the teacher is concerned with developing emotionally well-adjusted individuals.

In his role as group manager the teacher is concerned with organizing the children's social behavior in a way which enables him to do a more effective job of instruction and therapy.

In the instructor role the teacher must decide upon the particular strategies of instruction and how these strategies are implemented in instruction. For example, will students be required to discover principles on their own, or will they be told forthrightly? Will instruction be inductive or deductive?* Will a large variety of examples be given or will the student generate examples on his own?

Once these decisions are made the teacher then has to decide how these strategies are implemented in instruction. For example, is lecture appropriate? Should reading assignments be given? Are programmed materials suitable? Should a computer be used to mediate or manage instruction? In other words, a teacher must choose the instructional strategies best suited to her personal philosophy, and the objectives that are being considered in instruction, and then choose among all the potential techniques available for use in implementing these strategies.

The focus of these instructional simulation materials is the "discovery learning" stratagem, its major characteristics, and their application in the classroom.

The Discovery Techniques Instructional Simulation Materials are divided into two phases. In Phase I, our objective is to provide you with an introduction to discovery learning and discovery teaching. In Phase II, our objective is to give you an opportunity to apply these principles in a series of exercises designed to highlight key discovery teaching techniques.

* Inductive learning is generally taken to mean that a generalized concept or principle is learned from exposure to a series of specific examples. Deductive learning covers those cases where a concept or principle is presented, and then its application is learned from the observation of specific examples.

Phase I.

The student is introduced to the major characteristics of discovery learning and discovery teaching

Phase II.

The student will apply these principles in a series of simulated classroom encounters

In Phase I, the strategy we have labeled "discovery" is examined from two points of view. From the student's point of view, the strategy is seen as discovery learning. From the teacher's point of view, the strategy is seen as discovery teaching. In short, discovery learning refers to the student behaviors both observed and unobserved that take place while the student is "discovering." Discovery teaching refers to those observed behaviors on the part of the teacher when the student is engaged in discovery learning.

The instructional program for Phase I contains four parts.

- Part 1. Identifying the major characteristics of discovery learning and discovery teaching.
- Part 2. Differentiating between examples and non-examples of discovery learning and discovery teaching.
- Part 3. Identifying the purposes of discovery learning/discovery teaching.
- Part 4. Identifying discovery teaching "springboards".

You, the student, should be aware of some of the limitations of the filmed episodes. It has been necessary at times to:

- stage presentations or rehearse lessons before filming.
- use a less than optimum classroom arrangement for filming purposes.
- use a less than normal class load of students.
- exaggerate a situation in order to show clearly the desired principle.

The specific examples in the filmed presentation of teacher behavior should be thought of as "benchmarks." A benchmark, in surveying terms, refers to a reference point from which further measurements may be taken. The specific classroom techniques shown should be considered in that light. They are not the only way to instruct in that situation. In fact, in most situations you would handle it differently. Yet, both techniques, the ones we show and your own, serve to illustrate a principle.

Remember, a geological benchmark is not necessarily gold-plated. Its usefulness lies in the fact that other points may be established from it. The usefulness of the teaching examples and techniques we show lies in the fact that they may be used as examples for comparison. They furnish you with a starting point, a foundation upon which you can develop and build your own individual teaching skills.

These materials are designed to be used in an audio-tutorial fashion. An audio-tutorial situation has each student working alone, but with immediate assistance available from a tutor or the instructor to answer questions or straighten out any difficulties. If a tutor or the instructor is not available, students may find it helpful to question each other. This can be done with a small group of students working around one motion picture projector, but each working on his own manual.

In Phase I the instructional program uses an integrated set of materials, including:

(1)

MANUAL

(2)

FILMED
PRESENTATION

- Follow the manual carefully. It is written to guide you along each step. The materials are written to be used in sequence.
- The introduction is designed so as to give an overview of the learning that is to take place.
- The objectives are stated in terms of what you will be able to do after instruction.
- The written exercises are designed to give you the opportunity to apply the principle set forth in the instructional objectives.
- Some comments have been prepared to help you evaluate your work.

In review: 1) read the introduction
2) watch and listen to the film-tape
3) complete the exercises
4) evaluate your responses

You will not be graded on any of your answers in this manual. These exercises are designed to be an aid to you for understanding and utilizing the discovery method in the appropriate situation.

PART 1

CHARACTERISTICS OF DISCOVERY LEARNING AND TEACHING

INTRODUCTION: DISCOVERY LEARNING

Authorities on human learning and education hold rather definite ideas about the "hows" and "whys" of instruction to produce stated learning outcomes as well as motivation and self-confidence on the part of the student. Many adhere to what is termed the "learning by discovery hypotheses." To present some of the enthusiasm and flavor which accompanies the learning by discovery hypothesis, a statement by Suchman (1961) is presented below. About a program to improve inquiry skills, he writes:

"The need for improvement is great. Current educational practice tends to make children less autonomous and less empirical in their search for understanding as they move up the elementary grades. The schools must have a new pedagogy with a new set of goals which subordinate retention to thinking.

It is clear that such a program should offer large amounts of practice in exploring, manipulating and searching. The children should be given a maximum of opportunity to experience autonomous discovery. New goals must be set for the children. Instead of devoting their efforts to storing information and recalling it on demand, they would be developing the cognitive functions needed to seek out and organize information in a way that would be the most productive of new concepts. Both the teacher and the pupil would have to be cast in new roles. The pupil must become more active and aggressive in his learning role. Direction of the concept formation process should be his own, and he should come to regard his environment (including the teacher) as a potential source of information which can be obtained through his own acts of inquiry. The teacher must abandon his traditionally directive mode and structure an environment that is responsive to the child's quest for information. The teacher must see to it that the child's efforts at inquiry are rewarded by success, that the child is able to obtain the information he needs, and that he does discover new concepts on his own. The teacher can help the child by posing problems that are reasonably structured and will lead to exciting new discoveries. The teacher can also coach him in the techniques of data collection and organization that will lend power and control to his searching. The educator should be concerned above all with the child's process of thinking, trusting that the growth of knowledge will follow in the wake of inquiry."

The objectives of Part 1, stated in terms of what you will be able to do after instruction are:

Identify three major characteristics of discovery learning.

Identify discovery teaching behaviors from filmed episodes of a teacher involved in the discovery learning process.

Identify some cognitive learner outcomes from filmed episodes of the discovery learning process.

The stated objectives will be accomplished through your taking the part of an observer in a discovery classroom. As an observer you will be asked to interpret filmed episodes and decide if they represent characteristics of discovery learning and discovery teaching.

Shortly you will be asked to view a filmed sequence of a 5th grade classroom in which the students are quite excited and engrossed in what they are doing. There is little question that the students are highly motivated. Enthusiasm, active learning, and total participation should be immediately noticeable as the students attempt to solve a problem. Pay particular attention to the learners involved in the problem-solving situation.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE A.

Exercise A.

What did you see happening in this film? What types of learning experiences were the pupils engaged in?

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE A

The film you observed showed a science class actively involved in solving the problem of how to blow up a balloon in a bottle. As they attempted to blow up the balloon in the bottle they found it to be impossible. Due to the impossibility of the task they tried various methods or solutions to solve their problem. Each of these solutions subsequently ended in failure. Due to repeated failure they were continually analyzing the situation in an effort to find answers to the balloon blowing problem.

Does your list of observations include any of the above characteristics?

Now watch the filmed episode for a second time. As you view the episode you will have an opportunity to "dissect" the film into the three major components of discovery learning.

NOW WATCH SEQUENCE B-1. WHEN THE EPISODE FADES OUT, TURN OFF THE PROJECTOR.

Exercise B-1.

When the filmed sequence faded out what was happening?

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE B-1.

The student had perceived the problem that the balloon would not blow up in the bottle.

GO ON TO SEQUENCE B-2. WHEN THE EPISODE FADES OUT, TURN OFF THE PROJECTOR.

Exercise B-2.

When the filmed sequence faded out what was happening?

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE

COMMENTS - EXERCISE B-2.

The student had realized that he had no ready solution for his perceived problem.

GO ON TO SEQUENCE B-3. WHEN THE EPISODE FADES OUT, TURN OFF THE PROJECTOR.

Exercise B-3.

When the filmed sequence faded out what was happening?

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE

COMMENTS - EXERCISE B-3.

The student had developed a solution directed behavior and was thus attempting to solve his perceived problem.

The learning experiences that you have seen in the film represent, at least in part, what might be labeled, "discovery learning". In this learning process, the students are confronted with a problem -- an "I don't know" situation. It is important that the students perceive a problem if they are to discover. Note that the emphasis here is on the process of discovery. The strength of discovery learning lies in this process, or in the learner's ability to use this process in a variety of situations. Its strength does not depend primarily on what is learned, but rather on the process of learning. This does not mean that what is learned is not important; it only suggests that discovery learning maximizes process.

This leads to a second general characteristic of the discovery situation you witnessed on film, mainly, that none of the students had a ready solution, to the problem that they perceived. In the film you saw that the problem stumped the students. No one could blow the balloon up in the bottle.

Finally, the students exhibited solution directed behavior. Questions were being asked. Pupils were checking their text and other references in an effort to solve the problem. Discussions about the solution to the problem were initiated in many ways between the teacher and other students. You may have noticed that as pursuit of the solution progressed, others became intensely interested in the subject. As they tested the various hypotheses, the feelings of satisfaction on the part of the students increased because of the personal work they did in the attempt to solve the problem on their own.

In summary, the characteristics of discovery learning are: (1) a problem or a conflict situation is perceived; (2) there is no ready solution available to the perceived problem; (3) solution-directed behavior is initiated by the student resulting in active student participation in the learning experience.

You have been viewing the bits and pieces of discovery learning. The characteristics of the learner involved in discovery learning show the active search and selection process, explicit and implicit, of the learner in the problem solving ("I don't know", situation) and furthermore the learner characteristics illustrate the self-responsibility emitted on the part of the learner. Both active participation in problem-solving, and self-responsibility on the part of the learner, are the goal of discovery learning.

The next section of this material deals with teacher characteristics and objectives in discovery teaching. It is the intention of this film, and the following exercises, to give you a familiarity in the concepts of discovery learning and discovery teaching, and to let you participate as the teacher whose goal it is to develop in the learner the use of the discovery process in his problem solving experience.

INTRODUCTION: DISCOVERY TEACHING

In the previous section the characteristics of discovery learning have been discussed to give you an overview of the discovery process as it might appear in a classroom setting. The following section discusses the characteristics of discovery teaching in an effort to allow your attention to be focused on the working aspects of the discovery teacher. It has been previously demonstrated that for learning to occur via the discovery methods, the learner had to perceive a problem with no apparent solution existing as repertoire. He then had to solve the perceived problem through his own efforts. To facilitate discovery learning the behavior of the teacher must be such that the necessary background and situation is created. As a result of the discovery learning experiences, the student develops into a rational thinking person who may apply learned search skills to unlimited situations in solving perceived problems. As the student exhibits this behavior to an increasing degree, the objectives of discovery learning will have been reached. Thus, the teacher must follow the discovery teaching principles and adjust the application of these principles according to the degree of discovery learning behavior exhibited by the individual learner.

You will not be graded on any of your answers in this manual. These exercises are designed to be an aid to you for understanding and utilizing the discovery method.

Remember the filmed episode in which the student attempted to blow up a balloon in a bottle? We are going to take another look at it, this time, from the eyes of the teacher. This teacher has the task of using what might be called discovery teaching strategies. Previously we had viewed the episode from the "eyes" of the learner; now we will view the film from the "eyes" of the teacher and examine the characteristics of discovery teaching; the use of the strategies that allow discovery learning to take place.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE C

Exercise C

What teacher behaviors did you observe in this film? List specific examples.

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE

COMMENTS - EXERCISE C

In this filmed episode, the teacher engaged in behaviors which facilitated discovery learning on the part of the students. These behaviors were non-directive in nature. He made comments about the problematic situation, and the searching behaviors of students. The teacher also aided in creating a discovery mood among the students.

Does your list include any of the above behaviors?

Now watch this episode again. As you view the episode you will have an opportunity to dissect the film into four discovery teaching behaviors.

NOW WATCH SEQUENCE D-1 WHEN THE EPISODE FADES OUT, TURN OFF THE PROJECTOR.

Watch episode D-1

As you view the episodes, list what you believe to be the significant teaching behaviors or strategies exhibited by the teacher and justify them from specific examples shown in the episode.

Exercise D-1

What behaviors did the teacher exhibit, and what was his purpose?

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE D-1

The teacher focused the students' attention on the problem of blowing up the balloon. As the students worked with the balloon and bottles, the teacher behaved in such a way that the student maintained or developed a personal urgency for finding a solution to the problem. For example, the teacher said:

- a) "Have you found the source of the problem?"
- b) "Did you find there was a problem with this?"

NOW WATCH EPISODE D-2

Exercise D-2

What behaviors did the teacher exhibit, and what was his purpose?

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

Episode D-2

COMMENTS - EXERCISE D-2

The teacher encouraged the learner in his efforts to achieve an instructional objective without revealing information that was to be discovered. For example:

- a) "What's the matter, Bill, did you run out of breath?"
- b) "Come on, you can blow harder than that."
- c) "Come on, big breath now."

NOW WATCH EPISODE D-3

Exercise D-3

What behaviors did the teacher exhibit, and what was his purpose?

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

Episode D-3

COMMENTS - EXERCISE D-3

The teacher gave guidance which aided the learner to begin processing the information before him. For example:

- a) "What do you think the effect of that will be?"
- b) "Does it matter how much room there is below it? See what you can get as far as results then."

NOW WATCH EPISODE D-4

Exercise D-4

What behaviors did the teacher exhibit and what was his purpose?

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

Episode L-4

COMMENTS - EXERCISE D-4

The teacher facilitated a proper climate for exploration by saying such things as:

- a) "Need a bigger bottle; try this for size."
- b) "Why don't you try something like this?"
- c) "See what you can do with these containers."
- d) "Do you think you can engineer a different way of doing that?"

TWO MORE EXAMPLES

Now you are going to observe both the teacher and student focus together in the same episode. You will be asked to identify the seven discovery behaviors which have been identified up to this point. They are, in terms of the behavior: 1) a problem is perceived, 2) no ready solution is seen, and 3) solution directed behavior is initiated. In terms of the teacher behavior, they are: 4) focus on the problem is provided, 5) encouragement is given to the learner, 6) indirect guidance is provided to the learner, 7) a climate for exploration is provided.

Example 1 involves the teaching of color development by the use of a color wheel model. Watch the film presentation carefully to determine when the characteristics of discovery learning and teaching become apparent. You may also want to assess whether the purposes of discovery learning are being achieved in the sequence.

NOW WATCH THE FILMED PRESENTATION MARKED SEQUENCE E.

Exercise E

Did these behaviors occur? Write "yes", "no", "can't tell", "don't know", in the appropriate box.

Discovery Behaviors

Student Focus Discovery Learning			Teacher Focus Discovery Teaching			
Problem Perceived	No Ready Solution	Solution Directed Behavior	Focusing On Problem	Encouraging the Learner	Guiding the Learner	Encouraged Exploration

COMMENTS - EXERCISE E

Note that the three criteria for discovery learning were met.

The problem was perceived as how to develop colors from the basic colors given at the beginning of the experiment. The formation of colors through blending of the three primary colors became the problem.

None of the students seemed to have a ready solution to the formation of colors so active critical thinking developed in their search for an answer. The students, through experimentation under teacher guidance, were able to discover the relationship between the basic colors and color blending.

Note that the criteria for discovery teaching were met.

The teacher helped the students focus on the problem and encouraged students to explore potential solutions. Although the teacher provided guiding strategies as the learner engaged the problem, he does not give the answers. If he were to give the answers, the characteristics of discovery learning would not be met. Through the encouragement and guidance forms of reinforcement, the teacher established a climate for discovery.

The purposes of discovery learning were also accomplished. The students were able to transfer learning from one situation to another. They were able to move solution directed behavior to a formation of color principles. These basic principles were then applied to the formation of colors different from the "basics."

If you have successfully identified all seven behaviors in Exercise E, you may wish to move ahead to Part 2 , differentiating between examples and non examples of discovery learning/teaching. If you do not feel you have mastered the identification of the characteristics of discovery learning/teaching, you may wish to complete Exercise F or recycle through Exercises A through E and perhaps Exercise F.

If you wish, now watch film sequence F.

Example 2 involves the use of quotation marks in composition. Watch the film presentation carefully to determine when the characteristics of discovery learning and teaching become apparent. You may also want to assess whether the purposes of discovery learning are being achieved in the sequence.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE F.

Exercise F

Did these behaviors occur? Write "yes," "no", "can't tell," "don't know," in the appropriate box.

Discovery Behaviors

Student Focus Discovery Learning			Teacher Focus Discovery Teaching			
Problem Perceived	No Ready Solution	Solution Directed Behavior	Focusing On Problem	Encouraging the Learner	Guiding The Learner	Encouraged Exploration

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE F

Again in this episode the method of discovery is not as obvious as in the opening episode with the balloon and the bottle. But, the students do perceive a problem as existing -- that of the use of quotation marks in their writing, even though the problem is pointed out to them by the teacher.

Teacher encouraging and guiding is obvious, but the developing of the solution is left to the students -- not the teacher.

The students realize there is no ready solution available at their immediate disposal. Seemingly, if they knew the solution the use of quotation marks would never have become a problem.

Realizing the problem (as demonstrated on their papers) and not having a ready solution, the students attempted to solve the "I don't know" situation.

The purposes, that of principle formation and application one accomplished as demonstrated by the chalk board exercises in which the students apply the principles they had learned in the discussion and work session.

If you have mastered the identification of discovery behaviors, go on to Part II, distinguishing between examples and non examples of discovery learning/teaching. If you have had difficulty with these examples of discovery, you may wish to recycle through Exercises A to F again. Remember: you are not being graded - these exercises are designed to aid you in discovery technique development.

PART 2

DISCRIMINATING DISCOVERY LEARNING AND TEACHING

INTRODUCTION

In Part 1, you identified three major characteristics of discovery learning. Recall that these centered around: (1) a perceived problem by the student, (2) no ready solution available for solving the problem, (3) solution directed behavior initiated by the students. You also identified four discovery teaching behaviors: (1) focusing on the problem, (2) encouragement, (3) guidance, (4) establishing climate. Part 2 will deal with basic components in determining if discovery learning/teaching are taking place and thus give you an opportunity to apply these seven characteristics to the task of discriminating between episodes that may, or may not represent discovery learning/teaching.

The objective of Part 2, stated in terms of what you will be able to do after instruction is:

Differentiate between discovery learning/teaching and non-discovery learning/teaching on the basis of the characteristics previously given in Part 1.

Based on what you have now learned about the characteristics of discovery learning/discovery teaching, you will be given an opportunity to determine why two episodes do or do not, represent discovery learning/teaching. As you look at the two episodes, recall that we are not attempting to demonstrate that discovery learning is the only feasible method of teaching. Rather, it is one of many strategies that may be used. Use the characteristics that have been previously identified in analyzing why these episodes do and do not represent discovery learning/teaching.

The first episode involves a class experience with the surface tension of water. Watch the film presentation carefully to determine if the three student behaviors and four teacher behaviors did happen. Write yes, no, can't tell, don't know in the box for each of the seven behaviors.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE G.

Exercise G

Did these behaviors happen? (yes, no, can't tell, don't know)

Student Focus				Teacher Focus		
(1) Problem Perceived	(2) No Ready Solution	(3) Solution Directed Behavior	(4) Focus on Problem	(5) Encouraging	(6) Guiding	(7) Climate

Was this an example of discovery learning/discovery teaching? List examples to support your answer. If you think it was not an example of discovery, what might have happened so that discovery would have occurred. Explain your answer.

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE G

This was an example of discovery learning/discovery teaching. All seven behaviors occurred in the episode.

Did you adequately support your conclusion about this example of discovery learning/discovery teaching?

GO ON

The second episode involves a class experience with moist and dry air in the atmosphere.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE H.

Exercise H.

Did these behaviors happen? (yes, no, can't tell, don't know)

(1)	(2)	(3)	(4)	(5)	(6)	(7)
Problem	No	Solution	Focus	Encouraging	Guiding	Climate
Perceived	Ready	Directed	on			
	Solution	Behavior	Problem			

Was this an example of discovery learning/discovery teaching?
List examples to support your answer. If you think the episode was not an example of discovery, what might have happened so that discovery would have occurred. Explain your answer.

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE H

You have observed a non-example of discovery learning. The students never did perceive a problem as existing since in the opening segments they answered "yes" to the teacher's comment and still many of the students did not realize they had incorrectly answered his questions. To them no problem existed since they knew the answer to his first question. The students never realized they were lacking a ready solution. They thought they knew the answers and therefore no solution directed behavior was necessary. If they were lacking a correct response they were asked again in a "yes" or "no" manner. Also in the closing segments of this sequence you noticed he gave an indication with the raising of his hand what the correct response should have been. Since all students did not agree with him, rather than discovering why, he simply went back over the material.

EXAMPLES OF DISCOVERY AND NON-DISCOVERY LEARNING/TEACHING

Now, you will see three more episodes of learning situations. Determine if discovery is taking place. If an episode involves discovery learning/discovery teaching describe the occasion in the episode where each of the seven characteristics are represented. If non-discovery learning/teaching is involved, explain which characteristics are not represented.

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE I.

Exercise I

Was this an example of discovery learning/discovery teaching? (Remember to consider these seven behaviors:)

Student Focus

Problem Perceived

No Ready Solution

Solution Directed Behavior

Teacher Focus

Focus on Problem

Encouraging

Guiding

Climate

Yes _____

No _____

COMPARE YOUR ANSWER WITH THE COMMENTS ON THE NEXT PAGE.

COMMENTS - EXERCISE I.

This was an example of discovery.

This second episode involves a social studies class in which United States Indians and their adaption to the environment is being studied.

NOW WATCH FILM SEQUENCE J.

Exercise J

Was this an example of discovery learning/discovery teaching? (Remember to consider these seven behaviors:)

Student Focus

Problem Perceived

No Ready Solution

Solution Directed Behavior

Teacher Focus

Focus on Problem

Encouraging

Guiding

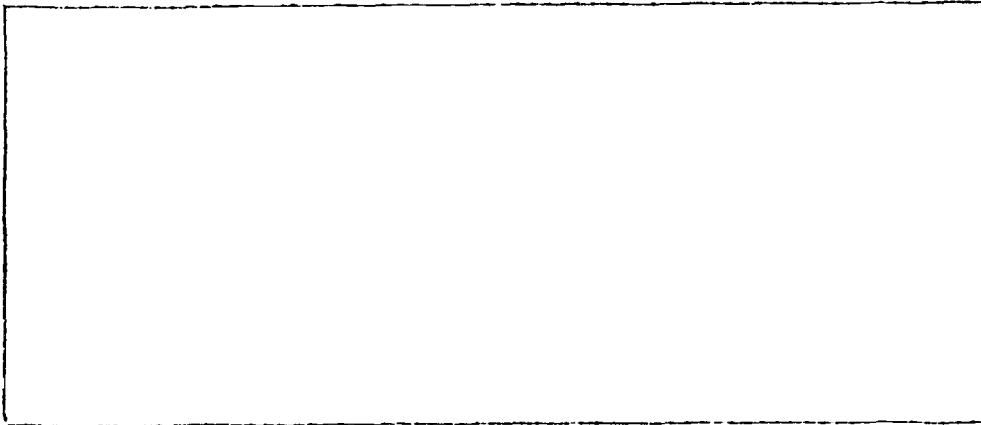
Climate

Yes _____

No _____

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE J



The third episode involves

NOW WATCH THE FILM PRESENTATION MARKED SEQUENCE K.

Exercise K.

Was this an example of discovery learning/discovery teaching?
(Remember to consider these seven behaviors:)

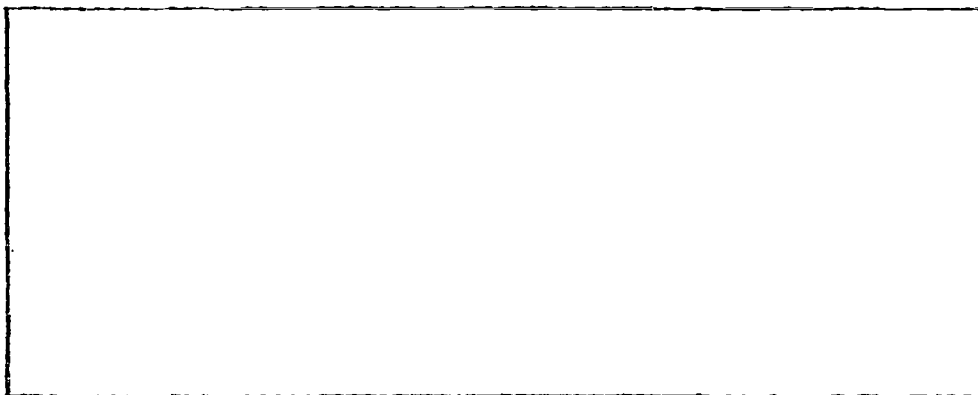
Student Focus
Problem Perceived
No Ready Solution
Solution Directed Behavior

Teacher Focus
Focus on Problem
Encouraging
Guiding
Climate

Yes _____
No _____

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE K



If you have not correctly identified these three episodes, you may wish to recycle through Part 2 again. If you have mastered the discrimination between examples and non-examples of discovery learning/discovery teaching, continue with Part 3, the purposes of discovery learning/discovery teaching.

A CONCLUDING NOTE TO PART 2.

A teacher is constantly plagued with the problem of determining how much guidance she should provide for her students. Attempts to answer this question are usually expressed at a common sense level, such are found in the following selections from Theory and Practice of Teaching:

"It is always a very difficult question for the teacher to settle, "How far shall I help the pupil and how far shall the pupil be required to help himself?"...That the pupil should be taught mainly to depend on his own resources... is the teaching of common sense. Whatever is learned, should be so thoroughly learned, that the next and higher step may be comparatively easy. And the teacher should always inquire, when he is about to dismiss one subject, whether the class understands it so well that they can go on to the next. He may, indeed, sometimes give a word of suggestion during the preparation of a lesson, and buy a seasonable hint, save the scholar the needless loss of much time. But it is a very greater evil if the pupils acquire the habit of running to the teacher as soon as a slight difficulty presents itself, to require him to remove it... The inquirer should never be frowned upon, this will diminish his self-reliance without enlightening him; for whatever is done for the scholar without his having studied closely upon it himself, makes but a feeble impression upon him, and is soon forgotten. The true way is, neither to discourage inquiry nor answer the question. Converse with the scholar a little as to the principles involved in the questions, refer him to principles which he has before learned, or has now lost sight of; perhaps call his attention to some rule of explanation before given to the class; go just so far to enlighten him a little and put him on the scant, then leave him achieve the victory himself." (Page, 1885)

This excerpt, first written in 1847, dramatizes how little what is said to the average classroom teacher has changed over the past century. The quotation might easily have been taken from an article written for teachers today.

The decision of whether to use discovery learning is one you as prospective teachers will have to determine. You will have to determine if the learning situation that exists would be benefited to its utmost by the use of discovery techniques. You will be forced to consider if the subject matter you are teaching is conducive to discovery strategies, the maturity of your pupils, your students prior learning experiences, and so on. Whatever your decision may be, it will be done knowing you have had a background in discovery techniques and now can add it to your "bag of tricks" to be used later if you so decide. Regardless of your

decision, no single method of teaching is likely to accomplish the wide range of cognitive and affective objectives that personnel in education have developed.

In Summary

We would like to quote a study from Bruner, 1969, which summarizes quite well the need for discovery learning to be incorporated into the teacher's "bag of tricks".

"One experiment which I can report provides encouragement. It was devised and carried out by the research group with which I am associated at Harvard in collaboration with teachers in the fifth grade of a good public school. It is on the unpromising topic of the geography of the North Central States and is currently in progress so that I cannot give all of the results. We hit upon the happy idea of presenting this chunk of geography not as a set of knowns, but as a set of unknowns. One class was presented blank maps, containing only tracings of the rivers and lakes of the area as well as the natural resources. They were asked as a first exercise to indicate where the principal cities would be located, where the railroads, and where the main highways were. Books and maps were not permitted and "looking up the facts" was cast in a sinful light. Upon completing this exercise, a class discussion was begun in which the children attempted to justify why the major city would be here, a large city there, a railroad on this line, etc.

The discussion was a hot one. After an hour, and much pleading, permission was given to consult the rolled up wall map. I will never forget one young student, as he pointed his finger at the foot of Lake Michigan, shouting, 'Yipee, Chicago is at the end of the pointing-down lake.' And another replying, 'Well, ok, but Chicago's no good for the rivers and it should be here where there is a big city (St. Louis).' These children were thinking, and learning was an instrument for checking and improving the process. To at least a half a dozen children in the class it is not a matter of indifference that no big city is to be found at a function of Lake Huron, Lake Michigan, and Lake Ontario. They were slightly shaken up transportation theorists when the facts were in.

The children in another class taught conventionally, get their facts all right, sitting down, benchbound. And that was that. We will see in six months which group remembers more. But whichever does, one thing I will predict. One group learned geography as a set of rational acts of induction--that cities

spring up where there is water, where there are natural resources, where there are things to be processed and shipped. The other group learned passively that there were arbitrary cities at arbitrary places by arbitrary bodies of water and arbitrary sources of supply. One learned geography as a form of activity. The other stored some names and positions as a passive form of registration." (Bruner, 1969, pp. 197-198)

PART 3

PURPOSE OF DISCOVERY LEARNING/DISCOVERY TEACHING

In Parts 1 and 2 of this manual you identified the characteristics of discovery learning/discovery teaching, and then you discriminated between examples and non-examples of discovery learning/discovery teaching. Part 3 of this manual is intended to focus your attention on the purposes of discovery.

Episodes A, C, E, F, G, I and K in Parts 1 and 2 were examples of discovery learning/discovery teaching. You are going to examine some of them again in Part 3, but this time your focus will be on the purposes of discovery learning and teaching.

The objective of Part 3, stated in terms of what you will be able to do after instruction is:

List the purposes of discovery learning/discovery teaching.

Exercise L

Remember the balloon and battle episode in Exercise A? Perhaps you may wish to review that filmed sequence before you complete Exercise L. You may recall that the teacher presented the problem to the class, however, problem perception may also take place in the teacher's absence, and frequently will. The students tried to blow up the balloon and recognized that they had no ready solution. The teacher reinforced the students exploring behavior by encouragement and guidance. Solution directed behavior emerged. The students changed bottles, tried to blow up the balloon outside the bottle, and inserted pencils in the bottle neck to let air escape. In their reports, the students offered possible solutions to the problem based on what they had discovered.

NOW LOOK AT FILMED SEQUENCE L

List the purposes you think the teacher had in mind when he had the class engage in that discovery activity.

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE

COMMENTS - EXERCISE L

The teacher seemed to have these purposes.

- a. to promote a change in classroom atmosphere to a climate more facilitative of discovery learning.
- b. a change in the roles of student and teacher.
 - 1. the teacher becomes responsive and adaptive and provides immediate feedback.
 - 2. the student assumes greater responsibility for his own learning.
- c. to develop searching, i.e., discovery behaviors.
- d. to develop motivation to further learning.
- e. to encourage principle formation by the students.
- f. to improve learning of the principles in question through active student response.

Not shown in the film was the transfer of learning from one situation to another. The major emphasis appeared to be on the process by which a solution was achieved.

It is also quite possible that the teacher wanted high involvement from the pupils. He may have reasoned that by allowing the pupils to use their own referents and their own pattern of organization in solving the problem, motivation was increased.

CONTINUE WITH EXERCISE M

EXERCISE M

Recall the color wheel sequence. The teacher presented the problem of the formation of colors from primary colors. The students explored for possible solutions. You may wish to review filmed sequence M to refresh your memory.

List the purposes you think the teacher had in mind when he had the class engage in this discovery activity.

COMPARE YOUR WORK WITH THE COMMENTS GIVEN ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE M

The teacher's purposes appeared to be these:

- a. to develop searching behaviors on the part of the students.
- b. to encourage principle formation by the students.
- c. to develop transfer from one problem situation to another.
- d. to generate motivation to further learning.

In this episode, the teacher wanted transfer of the principle of color formation to take place. Transfer was observed through the completion of the color wheel. The students were able to transfer their learning from one situation to another which led to principle formation and principle application.

CONTINUE WITH FILMED SEQUENCE N.

EXERCISE N

Remember the class episode involving the use of quotation marks. The teacher employed the discovery technique in an effort to solve a problem observable in the students' composition papers. The students explored material for a possible solution. You may wish to review filmed Sequence N before you complete Exercise N.

List the purposes the teacher had in mind when he had the class engage in this discovery activity.

COMPARE YOUR WORK WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS - EXERCISE N

The teacher's purposes appeared to be these:

- a. to produce a change in classroom atmosphere to a discovery climate.
 - 1. an increase in self-initiated, self sequenced, and self-evaluated activities.
- b. to change the roles of student and teacher
 - 1. the teacher becomes responsive and adaptive and provides immediate feedback.
 - 2. the student assumes greater responsibility for his own learning.
- c. to develop searching behaviors by the students.
- d. to develop motivation for further learning.
- e. to encourage principle formation by the students.
- f. to improve learning of a principle in question through active responses in a meaningful context.

In this episode the teacher again focused on the process behavior by which students arrived at a solution. Additionally the teacher intended the students to transfer the application of principles discovered. In this case to the examples placed on the chalk board.

Through the use of discovery learning techniques the responsibility for learning is placed largely upon the student. With this new found responsibility it is claimed that learning has more relevance for him. It might also be hypothesized that the greater the personal relevance, the greater the commitment to finding and solving the answers to problems.

The effects of discovery learning can then be summarized: (1) greater responsibility, (2) greater relevance of subject matter, and (3) a greater total commitment on the part of the student to learn.

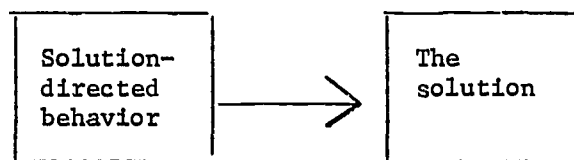
In these films, you saw two things:

- (1) The solution to the perceived problem, i.e.,

"The knowledge that the balloon would not blow-up due to the fact of the inability of the air to be displaced by the balloon."

and

- (2) The process by which the students arrived at the solution, e.g., testing hypotheses.



Not shown in the film was another "object" of discovery --

The discovery of a principle implicit in the solution that could be used in a variety of situations.

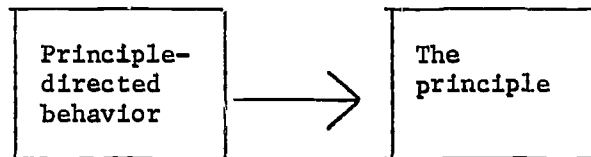
Again, two things are involved:

- (1) The statement of the principle, e.g.,

"Air molecules can be compressed to a maximum and no pressure can be exerted past this point."

and

- (2) The process by which the students discover the principle.

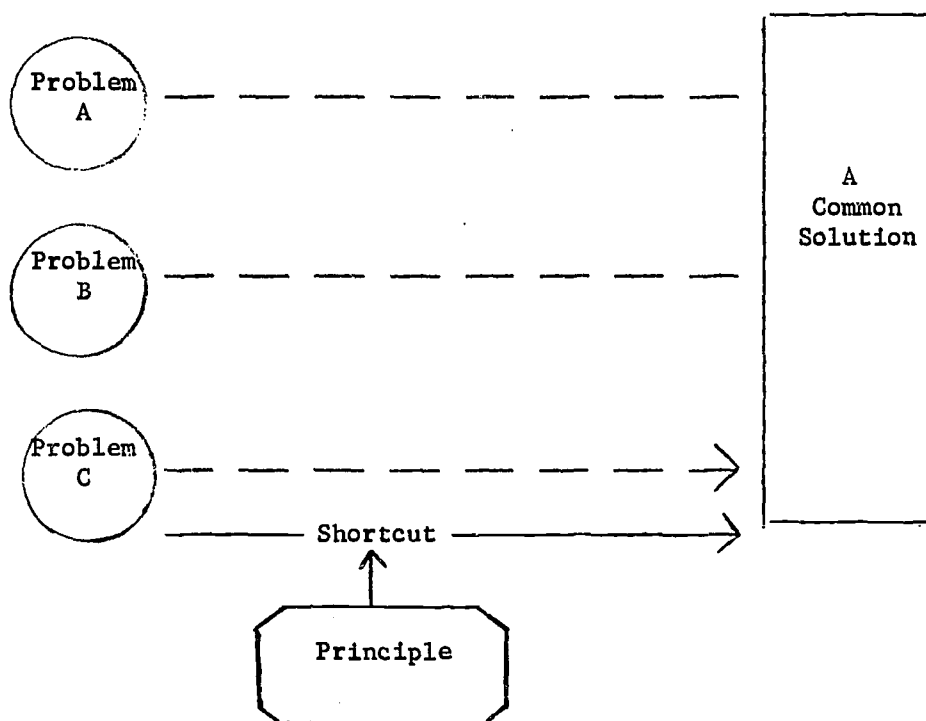


Finally, not shown in the film was how the principle might be used in a variety of situations.

Note that either process . . .

- (1) The process of searching out a solution to a perceived problem, or
- (2) The process of searching out a principle that may be used in a variety of situations . . .

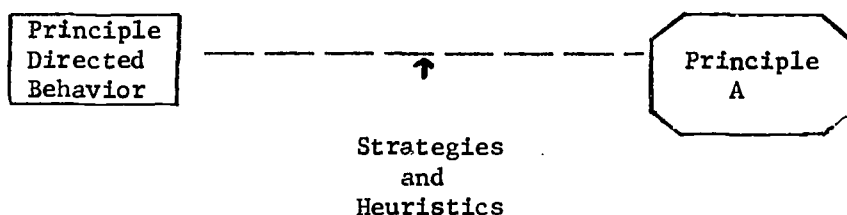
may be adapted or generalized or transferred to subsequent problems. For example, if the problems are similar in nature (that is the same principle is represented) then the principle may be used as a mediator to shortcut the searching process that the learner goes through to arrive at the solution.



Principle formation need not be part of an initial discovery experience for students. It is valid for generalization, principle formation and transfer to be part of subsequent experiences. For example, the teacher could have employed sequential experiences with air compressability to facilitate generalization and transfer.

Such a sequence of experiences may be thought of as a strategem for moving students along a continuum of inductive discovery experiences.

Further, the process of searching out principles may be shortcut if the behaviors used in the search (often called strategies or heuristics) are applicable.



In summary, discovery learning on the student's part can involve finding more than a solution to a problem. He may discover at least four things:

- (1) a solution to the problem,
- (2) a process to arrive at a solution,
- (3) a principle implicit in the solution,
- (4) a process to arrive at the principle.

In most cases, the instructor is most interested in enhancing the process of discovery learning rather than the product, i.e., a solution or a principle.

PART 4

DISCOVERY TEACHING SPRINGBOARDS

Introduction: Springboards

In addition to the basic characteristics of discovery teaching additional application may be appropriate. Accepting the fact that students are on different levels of understanding and utilizing discovery search skills a discovery teacher must adapt a program to meet the needs of the individuals in their class.

If a student has acquired certain required search skills the approach and strategy of the teacher may be more advanced and more indirect in guidance. Work will be done on a more abstract level of application than if needed search skills are less developed. Thus as the level of search skills improve the discovery teaching strategies are modified.

Below are three examples of "springboards" for further discovery teaching techniques. These "springboards" could be applicable to both students with high or low development of search skills. They would need to be adapted to fit each instance of maximum learning that was to take place with the student.

The objective of Part 4 stated in terms of what you will be able to do after instruction are:

Identify springboards which may be used by the teacher in discovery teaching.

Application

The first of the three "springboards" being that of application -- i.e., the ability to apply principles learned from one situation to another.

The following filmed sequence marked Sequence O is an example of application -- the application of a principle concerning environmental adaptation from section to section within the United States.

NOW WATCH FILMED SEQUENCE O.

Extensions

The second "springboard" is that of extensions. Application generally refers to applying learned principles from situation to situation within the same general realm of learning; extensions, however, refer to a broader application of principles -- from one situation to a different unrelated situation.

The following filmed sequence marked Sequence P is an example of

extensions -- the extending of the principle of heating and expansion to items other than the immediate realm of the ketchup bottle.

NOW WATCH FILMED SEQUENCE P.

Explanation

The third of the "springboards" examples is that of explanation. From the discovery teaching and ensuing discovery learning the student may gain the ability to offer explanations. In order to explain an idea etc., the student is forced to think through his present level of understanding and thereby to clarify and order his present thinking. Then, he is able to extend his own thinking to another level.

The following filmed sequence marked Sequence Q is an example of explanation as is being depicted by one student explaining why snakes coil in danger.

NOW WATCH FILMED SEQUENCE Q.

You have now had a brief introduction of three basic springboards. As you view each of the following episodes indicate in the appropriate space the nature of the springboard.

NOW WATCH FILMED SEQUENCE R-1.

Exercise R-1.

What was the nature of presented springboard?

1. Application
2. Explanation
3. Extension

COMPARE YOUR ANSWER WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS R-1

The "springboard" for further activity you observed was that of explanation. One girl was helping another in solving a problem -- thus through explanation by a student, a girl was able to solve her own problem.

GO ON TO SEQUENCE R-2

Exercise R-2.

What was the nature of the presented springboard?

1. Application

☐

2. Explanation

☐

3. Extension

☐

COMPARE YOUR ANSWER WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS EXERCISE R-2

The springboard for further activity you observed was that of application. The teacher realizing the student was having difficulty dealing with the large math numbers had the student follow the same principles but with smaller numbers. If it works with smaller numbers just apply the same principle to larger numbers.

GO ON TO SEQUENCE R-3

Exercise R-3.

What was the nature of the presented springboard?

1. Application
2. Explanation
3. Extension

COMPARE YOUR ANSWER WITH THE COMMENTS ON THE FOLLOWING PAGE.

COMMENTS EXERCISE R-3

The springboard for further application was that of extension. The teacher first established the principle of warm air expansion and then the students applied the same principle to other unrelated activities -- tire blowing out.

If you did not correctly identify the three examples of springboards you may wish to recycle through Part 4.

A CONCLUDING NOTE

What we have presented is a "bare bones" outline of discovery learning/teaching. Perhaps more could have been said. Certainly volumes have been written on the topic. But that was not our purpose. As a teacher, you have the responsibility to fill in the gaps with your own experience. That doesn't come from reading. Build upon what has been presented here as you interact with students. In that way, the discovery technique will be a dynamic and interesting technique in your own teaching.

Appendix K.

**Discovery Teaching
Student Manual,
Phase II**

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Phase II: Discovery Teaching
Student Manual**

**Revised
July, 1970**

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

Foreword

This manual represents a joint work of the undersigned. The specification of the manual format and the exercises was largely the effort of Dr. Twelker while the actual development of the manual was the responsibility of Mr. Kohl.

Paul A. Twelker
Donald Kohl

Phase II Discovery Techniques

Introduction

Part I: Purpose of Discovery

Simulated situations: focus on decision to use the discovery technique

Part II: Focusing on the Problem

Simulated situations: focus on methods teachers may use, and an evaluation of these group-generated techniques

Part III: Indirect Guidance and Encouragement

Simulated situations: focus on different methods and their consequences

Part IV: Reinforcement of Exploration (Setting and Maintaining Proper Classroom Climate)

Simulated situations: focus on facilitative teacher acts

Part V: Springboards

Simulated situations: focus on using springboards

Part VI: All Behaviors in Context

Microteach situations: focus on all teacher discovery behaviors

INTRODUCTION

In Phase I four characteristics of discovery teaching were introduced. You had the opportunity to become familiar with these characteristics in several different learning situations.

Phase II gives you the opportunity to practice or "exercise" your application of the characteristics of discovery teaching with students. The classroom situation will be simulated, but the problems and questions you will be handling are real. The purpose of using the simulated situation is to give you a foundation of experience that you will be able to build upon during your teaching career. It is hoped these simulation exercises will prove to be a worthwhile experience in helping you prepare for the classroom.

PART 1

The Purpose of Discovery

Introduction

Prior to the purposeful selection of a particular instructional method, the teacher must have clearly in mind the instructional purposes to be achieved. Once the teacher can specify the purposes for instruction, the instructional method can be selected on the basis of its capacity to promote those purposes. It follows then that the use of the discovery approach must result from the teacher's recognition that its use is appropriate for the achievement of the purposes of a particular instructional experience.

The exercises in this lesson are intended to provide opportunities for you to practice the decision making process leading to the selection of the discovery method when it is appropriate.

Exercise 1

In this exercise you will be asked to decide when the application of the discovery method is appropriate to your instructional purposes. Below are listed three concepts and a set of enabling objectives for those concepts. Select one set of a concept and objectives for use in this exercise. Read the concept and objectives carefully, then, decide which of the objectives might best be attained through a discovery experience. After you have considered the objectives carefully read the study questions which follow the sets of objectives and participate in an analysis discussion.

1. Concept: Africa may be divided into seven major regions.

Enabling Objectives:

- A. Draw a map of Africa placing in the specified countries and capitals.
- B. Place on a map the major rivers, mountains, deserts, and forests of Africa.
- C. Using a wall map, be able to locate 10 major cities, 10 major transportation centers, and 5 major rail routes in Africa.
- D. Make a map of Africa placing in all large bodies of water that surround the continent.
- E. Make a map of Africa showing the major regional divisions of Africa.

2. Concept: The interrelationship between the elements and controls of climate produce the various types of climates.

Enabling Objectives:

- A. You will be able to identify the difference between weather and climate.
 - B. You will be able to list the seven (7) controls and three (3) elements of the weather and climate.
 - C. Given the necessary information you will be able to identify the controls of weather and climate which act upon any given elements of weather and climate by the effects they produce.
 - D. Given a list of the following maps: isobars, isotherms, rainfall, winds, and ocean currents you will be able to correctly match these maps with statements that identify their purpose and use.
 - E. Given the Australian continent you will be able to draw in the patterns of winds, pressures, and ocean currents and identify the effects of the action of the controls of weather and climate upon the elements of weather and climate for this continent.
 - F. You will be able to create a continent of your own and explain the patterns of winds, ocean currents, pressures, and how these elements and controls interrelate to produce different climate situations.
3. Concept: The interrelationships within the habitat of man are continually changing and exist in great variety.

Enabling Objectives:

- A. You will be able to define the following terms:
 - 1) Habitat 4) Physical Environment
 - 2) Environment 5) Cultural Environment
 - 3) Culture 6) Interrelationships
- B. You will be able to identify seven (7) physical and two (2) cultural elements of man's habitat.
- C. Given a picture of a landscape or scenic view you will be able to list the cultural and physical elements of the human habitat that are shown in the picture.
- D. You will be able to write a brief explanation of the following statement: "As the physical or cultural environment changes the total habitat takes on different characteristics."
- E. You will be able to write an explanation of the interrelationships of physical and cultural elements within a given habitat.

- F. Given three (3) examples of variety and change within the total human habitat you will be able to list two (2) important effects of variety and change on man's development within the human habitat.

Study Questions: Be prepared to answer these questions in the analysis discussion.

1. Where would you use Discovery Teaching in this module of instruction?
2. What would you hope to achieve using Discovering Teaching this way?
3. With what types of learners would you use this approach?
4. Think in specific terms of learners with various learning styles or capabilities.

Exercise 2

In this exercise you will be asked to decide when the application of the discovery method is appropriate to your instructional purposes. Below are listed three concepts and a set of enabling objectives for those concepts. Select one set of a concept and objectives for use in this exercise. Read the concept and objectives carefully, then, decide which of the objectives might best be attained through a discovery experience. After you have considered the objectives carefully read the study questions which follow the sets of objectives and participate in the analysis discussion.

4. Concept: Maps are the basic tools of the geographer.

Enabling Objectives - Part 1

- A. You will be able to explain the need for a grid system involving parallels and meridians.
- B. You will be able to define the following terms and to explain their use in relation to maps:

Parallel	Prime Meridian
Meridian	Equator
Longitude	Great Circle
Latitude	International Date Line
Intersect	Standard Time Zone
Bisect	Cardinal Points
Traverse	

- C. Given a simple grid system you will be able to correctly write the latitude and longitude of all the points shown on the grid.

- D. Given the latitude and longitude on a number of points you will be able to correctly locate these points on a simple grid system.

Enabling Objectives - Part 2

- A. Given the purposes for the use of four (4) different types of maps you will be able to correctly name the types of map projections which would be used.
- B. Given fifteen (15) different map symbols you will be able to correctly match the symbol with the name of the surface feature it represents.
5. Concept: There are many areas of the world which have similar physical patterns.

Enabling Objectives:

- A. You will be able to list two (2) of the physical elements of man's habitat whose world patterns are related to the pattern of world climates.
- B. You will be able to identify the five (5) major groups of the Koppen system of climate classification.
- C. Given a list of twelve (12) written descriptions of climates you will be able to match the correct Koppen letter symbols with the proper written descriptions.
- D. Given a blank map of the world and a list of ten (10) Koppen climate types you will be able to locate on the blank map two (2) areas of each of the ten Koppen climate types.
- E. Given the necessary statistical information you will be able to construct a climate graph.
- F. Given typical climatic graphs for each of the five (5) major classes of climates you will be able to correctly identify each graph with the proper letter symbol of the Koppen system.
6. Concept: Upon completion of this unit of work the student should understand the nature, kind, form, content and transfer of notes, drafts and checks.

Objective: Identify the three types of negotiable instruments; identify the various parts of the instruments and explain its use. (100% Accuracy)

Purpose: To determine the uses, advantages, limitations and types of negotiable instruments.

Objective: List from memory the six requirements for a negotiable instrument and explain each one. (100% Accuracy)

Purpose: To acquaint students with the requirements of negotiability.

Objective: Illustrate on paper the four forms of endorsements, identify each one and explain the purpose or affect of each one. (100% Accuracy)

Purpose: To learn how negotiable instruments can be transferred and what are the types of endorsements.

Objective: Explain orally the difference between holder and holder in due course, and the purpose of limited defenses and universal defenses used between holder and holder in due course. (80% Accuracy)

Purpose: To learn what is a holder in due course and his rights and defenses.

Objective: Identify the three types of negotiable instruments and explain how each one is used in personal and business transactions. (100% Accuracy)

Purpose: To distinguish the different types of negotiable instruments, and how they can be used in business transactions.

Study Questions: Be prepared to answer these questions in the analysis discussion:

1. Where would you use Discovery Teaching in this module of instruction?
2. What would you hope to achieve using Discovery Teaching this way?
3. With what types of learners would you use this approach?
4. Think in specific terms of learners with various learning styles or capabilities.

PART 2

Focusing on the Problem

Introduction

From the "Phase I Discovery Teaching Student Manual" you learned that one initial teacher behavior in a discovery teaching situation is to aid the student in focusing on the problem. This behavior extends beyond the act of exposing the problem to the students before the discovery activity begins. The teacher interacts with the students to facilitate more precise understanding of the nature and boundaries of the problem, and perhaps to enlarge pupils' awareness and acceptance that the problem has reality for them.

In the following exercises you and your fellow students will simulate in various ways a discovery classroom situation in which focusing behaviors by a teacher will be featured.

Exercise 1

You will receive a role-playing slip on which either a teacher or pupil role will be described. The exercise will continue until the teacher exhausts the possibilities of focusing behaviors that relate to the evolving of role-playing. After the role-playing in each exercise is terminated you will consult the teacher behavior checklist and participate in an analysis discussion.

Situation

It is mid-morning, and the class is about to begin a science lesson. You have all read about the animals found in the broadleaf forests of the United States.

Role Card - Teacher

You are to direct the discussion about man's effect on the rabbit, deer, and bear in the woods. You are trying to get the class to see that by such activities as hunting, lumbering, and pollution man may make some or all of these animals extinct. You want the students to explore and suggest solutions to this problem.

You might begin the role-playing with the question: "In what ways has man's activities affected the number of rabbits, bears, and deer we find in the woods?"

Role Card - Student #1.

You are thinking about your dinosaur book from the library, and you want to know how and why dinosaurs became extinct. As soon as you can, say: "I was reading about dinosaurs and I want to know why there are no dinosaurs alive today?"

Role Card - All Students

You have read about the rabbit, deer and bear in the broadleaf forests of the United States. You have learned that hunting, pollution and lumbering, etc. have caused the number of these animals found in the woodlands to decrease greatly over the last twenty years. You are not sure how to proceed to explore this problem.

Teacher Behavior Checklist

Part 2 Exercise 1

PROBLEM FOCUSING BEHAVIORS

1. Did the teacher help you to focus on the problem proposed for the class or individual pupils?
 - a. by helping to eliminate unrelated ideas;
 - b. by helping to sharpen the boundaries of the problem;
 - c. by helping to establish the significance and relevance of the problem.

Rate the focusing behaviors of the teacher by placing an "X" on the linear scale below.

1	2	3	4
problem	problem	problem	problem
not		perceived	perceived
perceived		somewhat	clearly
		clearly	

2. Did the teacher stimulate your thinking about how you might proceed to explore for a solution to your problem without giving explicit directions or answers?
 - a. sources of information
 - b. methods of exploration
 - c. necessary materials

1	2	3
no	some	a lot
stimulation	stimulation	of
		stimulation

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem?

1	2	3	4
no feedback	sometimes slow feedback	almost quick feedback	always always

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

1	2	3
no reactive-adaptive behavior	some reactive-adaptive behavior	a lot of reactive- adaptive behaviors

Exercise 2

In this role-playing situation you are to continue going to concentrate on teacher focusing behavior. You will receive role cards similar to those in Exercise 1. You will continue until the teacher exhausts the possibilities of focusing behaviors and then fill out the teacher behavior checklist in preparation for the analysis discussion.

Situation

It is several days later, and the science period is about to begin. The class is to discuss a reading assignment on the beaver.

Role Card - Teacher

You plan to discuss the beaver's role in changing the woodland landscape. You wish to point out that some of these changes may be considered harmful by man. The problem upon which you wish to focus is this conflict between man and the beaver, and how each can get along without hurting the other. You might begin by asking the students to briefly list the changes the beaver makes in the woods.

Role Card - Student #1

As the class begins the discussion, the teacher's mention of the beaver reminds you of a dinosaur book you looked at last night. You raise your hand as soon as you can and ask the teacher why some animals become extinct.

Role Card - Student #2

When student #1 asks the teacher why animals become extinct you do want to discuss this topic. You do not want to continue the discussion on the beaver.

Role Card - All Other Students

You agree that you do want to continue the discussion on the beaver and do not want to discuss why some animals become extinct.

Alternate Form - All Other Students

You agree that you do not want to continue the discussion on the beaver and do want to discuss why some animals become extinct.

Teacher Behavior Checklist

Part 2

Exercise 2

PROBLEM FOCUSING BEHAVIORS

1. Did the teacher help you to focus on the problem proposed for the class or individual pupils?
 - a. by helping to eliminate unrelated ideas;
 - b. by helping to sharpen the boundaries of the problem;
 - c. by helping to establish the significance and relevance of the problem.

Rate the focusing behaviors of the teacher by placing an "X" on the linear scale below.

1	2	3	4
problem	problem	problem	problem
not		perceived	perceived
perceived		somewhat	clearly
		clearly	

2. Did the teacher stimulate your thinking about how you might proceed to explore for a solution to your problem without giving explicit directions or answers?
 - a. sources of information
 - b. methods of exploration
 - c. necessary materials

1	2	3
no	some	a lot
stimulation	stimulation	of stimulation

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem?

1	2	3	4
no feedback	sometimes slow feedback	sometimes quick feedback	almost always quick feedback

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

1	2	3
no reactive-adaptive behavior	some reactive-adaptive behavior	a lot of reactive- adaptive behaviors

Exercise 3

The role-playing situation to explore teacher focusing behaviors will continue in Exercise 3. You will receive role cards again. The role-playing situation will continue until the teacher exhausts the possibilities of focusing behaviors that relate to the evolving role-playing. After the role-playing is terminated, you will fill out the teacher behavior checklist and participate in the analysis discussion.

Situation

Your social science class is about to discuss a film you have just watched. The film showed examples of environmental pollution in the Pacific Northwest, and the narration made a strong appeal for changes in these conditions.

Role Card - Teacher

The students have read about pollution and just watched a film on pollution in the Pacific Northwest. You want the class to explore in a discovery experience the question, "Why can't we stop pollution right now?" This might be your leading question.

Role Card - Students

You have read about pollution and have watched a film about pollution in the Pacific Northwest. The teacher has asked you to be prepared to discuss the film you have just watched. You have thought of several sources of pollution, i.e., agricultural use of sprays, home use of detergents, littering land and water, and industrial dumping of wastes into the water and air.

Teacher Behavior Checklist

Part 2 Exercise 3

PROBLEM FOCUSING BEHAVIORS

1. Did the teacher help you to focus on the problem proposed for the class or individual pupils?
 - a. by helping to eliminate unrelated ideas;
 - b. by helping to sharpen the boundaries of the problem;
 - c. by helping to establish the significance and relevance of the problem.

Rate the focusing behaviors of the teacher by placing an "X" on the linear scale below.

1	2	3	4
problem	problem	problem	problem
not		perceived	perceived
perceived		somewhat	clearly
		clearly	

2. Did the teacher stimulate your thinking about how you might proceed to explore for a solution to your problem without giving explicit directions or answers?
 - a. sources of information
 - b. methods of exploration
 - c. necessary materials

1	2	3
no	some	a lot
stimulation	stimulation	of stimulation

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem?

1	2	3	4
no	sometimes	sometimes	almost always
feedback	slow	quick	quick
	feedback	feedback	feedback

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

1	2	3
no reactive-adaptive behavior	some reactive-adaptive behavior	a lot of reactive- adaptive behaviors

PART 3

Encouragement and Indirect Guidance

Introduction

As the teacher is helping the students to focus on the problem, he will begin to engage in re-enforcing behaviors and continue them during the subsequent exploring-discovery activities of the students. As the students interact with the problem, seeking solutions, the teacher should provide re-enforcement by encouraging student efforts and providing indirect forms of guidance.

The exercises in Part 3 are designed to provide opportunities for you to try out these re-enforcement behaviors, i.e., encouragement and indirect guidance. Various types of exercise activities will be utilized such as problem discussions and role-playing situations. These exercises will be extensions of the exercises you experienced in Part 2. They will build upon the situations already initiated so you will be able to observe a continuously developing teacher role in discovery experiences.

Exercise 1

Recall Exercise 1 in Part 2. A science class was studying man's effect on woodland animals. You helped the students focus on this problem in preparation for a planned discovery experience. You are going to continue with that situation in this exercise. You will receive role cards for either a teacher or a student. The exercise will continue through several episodes in each exercise. During each episode the teacher will attempt to employ encouragement and indirect guidance behaviors relevant to each episode. Remember that as this early exploratory activity continues the dynamics of the situation may require you to continue or initiate additional problem focusing behaviors. After the role-playing is terminated please fill out the teacher behavior checklist and participate in the analysis discussion.

Situation

It is later in the morning of the same day. Small groups or individual students are reading, looking at, or discussing materials related to the problem or problems focused upon in the initial stage of this lesson.

Role Card - Teacher

You are circulating around the class and monitoring students to see if they are getting started with the discovery lesson. You are on the look-out for students who need encouragement, guidance, or perhaps additional problem focus aid. Student #1 seems lost and unable to continue his work.

Episode 1.

Role Card - Student #1.

You are trying to find ways by which man can continue to utilize the woodlands and its deer, rabbit and bear population without endangering these animal populations. You are having difficulty getting started in finding material about hunting laws. You are just sitting thinking about this problem. Look anxiously at the teacher and say, "I don't know where to look."

Discussion

Did the teacher use either encouragement or indirect guidance effectively? Could additional problem focusing be needed by the student? A quick glance at the teacher behavior checklist at the end of this exercise may help your thinking about this question. What would you have done?

Episode 2

Role Card - Teacher

You have noticed a group having a heated discussion about who should get library materials for the group. You approach the group as group members raise their hands.

Role Card - Students 2-6

Your group has been discussing the extinction of deer and bears. You cannot decide whether all of you should go to the library or not, and an argument on this issue has started. Some of you (students #2, 3, and 4) want all to go and, students 5 and 6 want only one person to bring back materials. You raise your hands and ask the teacher, "Where do we go from here?"

Discussion

Did the teacher effectively employ encouragement and indirect guidance techniques? If not, what would you have done?

Episode 3

Role Card - Teacher

Another group is calling for your attention. They have assembled a great deal of information but they seem unable to organize it for study on the problem.

Role Card - Students 7-9

Your group has found a great deal of material on conservation of animal life, but you are not sure how to organize it for study to answer the problem.

One group member thinks the material is not very good for your problem and wants to find information on hunting regulations.

Discussion

Was encouragement and indirect guidance used effectively? If not what would you have done?

Episode 4

Role Card - Teacher

In the same group in Episode 3 one student seems confused. He doesn't seem to understand where the group is headed.

Role Card - Student 10

You are confused about the extinction of woodland animals problem. You ask the teacher: "I don't know what extinction really means, and how do we really know that these animals are in danger?"

Discussion

Did the teacher effectively use encouragement and indirect guidance? Would additional problem focusing help this pupil?

Teacher Behavior Checklist

Part 3

Exercise 1

PROBLEM FOCUSING BEHAVIORS

1. Was further problem focusing necessary?

Yes

No

2. Did the teacher respond to the problem focus need?

Yes

No

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem? Mark your response on the line below.

1	2	3	4
no feedback	sometimes slow feedback	sometimes quick feedback	almost always quick feedback

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

1	2	3
no	some reactive-adaptive behavior	an appropriate amount of reactive- adaptive behaviors

INDIRECT GUIDANCE AND ENCOURAGEMENT BEHAVIORS

5. Did the teacher provide indirect guidance without giving answers?

1	2	3
no indirect guidance	some indirect guidance	an appropriate amount of indirect guidance

6. Did the teacher offer encouragement for searching behaviors and solution directed behaviors?

1	2	3
no encouragement	some encouragement	a lot of appropriate amount of encouragement

Exercise 2

Recall Exercise 2 in Part 2 about the beaver. The teacher has posed the problem of how can man and the beaver get along in the same area while they seem to have conflicting ways of using that area. The exercise will continue until the teacher exhausts the possibilities of re-enforcement behavior relevant to the role playing situation. After the role episode playing is terminated please consult the teacher behavior checklist and participate in the analysis discussion.

Situation

You have divided yourselves into small groups (3 or 4) to seek solutions to the problem of the conflict between man and the beaver.

Episode 1

Role Card - Teacher

You and the class have discussed the man-beaver problem, and you have helped the class focus on the problem. As the small groups begin

working you are monitoring the groups to give re-enforcement (encouragement and indirect guidance). As you approach one group they seem confused about the problem.

Role Card - Students 1-4

You are trying to solve the man-beaver problem, and your class has divided itself into small groups. Your group is not sure just what the problem is at this point. One group member asks the teacher, "We are confused about the problem."

Discussion

Was problem focusing behaviors the only ones called for in this situation?

Does encouragement and indirect guidance take a different form when problem focusing techniques are also called for?

Episode 2

Role Card - Teacher

You are still working with the man-beaver problem in this class. Another group seems divided about an issue as you go over to them.

Role Card - Students 5-9

Your group has done a little research on the compatibility of man and the beaver, and two students believe the solution is for man to set aside wilderness preserves for wildlife like the beaver. The remaining three students don't like this solution and they want to continue study and exploration of the problem. One group member asks the teacher, "We have already found a solution." Another student replies, "No we haven't." "What are we going to do with these two who think they have a solution already?" "They just don't want to work!"

Discussion

Was encouragement and indirect guidance used effectively? If you disagree with the teacher behavior, what would you have done?

Episode 3

Role Card - Teacher

You are still working with the man-beaver problem. You observe one group seemingly not working productively.

Role Card - Student 10

Your group is discouraged because the information you have gathered

does not seem to provide any answer to the man-beaver conflict problem. One group member raises his hand and explains this problem to the teacher and asks, "What do we do about this?" "We don't think there is an answer."

Discussion

Was this a situation for additional problem focusing as well as encouragement and indirect guidance?

Teacher Behavior Checklist

Part 3 Exercise 2

PROBLEM FOCUSING BEHAVIORS

1. Was further problem focusing necessary?

Yes

No

2. Did the teacher respond to the problem focus need?

Yes

No

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem? Mark your response on the line below.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
no	sometimes	sometimes	almost always
feedback	slow feedback	quick feedback	quick feedback

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

<u>1</u>	<u>2</u>	<u>3</u>
no	some	an appropriate
reactive-adaptive	reactive-adaptive	amount of reactive-
behavior	behavior	adaptive behaviors

INDIRECT GUIDANCE AND ENCOURAGEMENT BEHAVIORS

5. Did the teacher provide indirect guidance without giving answers?

1	2	3
no indirect guidance	some indirect guidance	an appropriate amount

6. Did the teacher offer encouragement for searching behaviors and solution directed behaviors?

1	2	3
no encouragement	some encouragement	a lot of an appropriate amount of encouragement

Exercise 3

Remember Exercise 3 in Part 2? It was about a class studying pollution. In this exercise you are going to observe a situation involving another class studying pollution. Observe the class until the situation stops. Then, decide which discovery teacher behavior is appropriate. You will then participate in an analysis discussion of possible teacher behaviors as they relate to the observed discovery situation.

Situation

The situation opens upon a class listening to the teacher's final introductory statement, "Why can't we stop pollution right now?" The teacher then directs the groups to explore this problem and to submit an answer at the next class period. The groups of pupils begin to explore the problem.

The teacher begins to circulate around the class monitoring pupil groups.

A pupil in a group raises his hand and asks the teacher to come to the group.

The student says,

"We have listed kinds of pollution under the headings of land, water, and air." "We have also tried to list some of the sources and causes of these types of pollution." "Is this all right so far?" "Are we on the right track?"

What behavior should the teacher engage in now? What do you think should be the teacher's response?

Teacher Behavior Checklist

Part 3
Exercise 3

PROBLEM FOCUSING BEHAVIORS

1. Was further problem focusing necessary?

Yes

No

2. Did the teacher respond to the problem focus need?

Yes

No

ADAPTIVE-REACTIVE BEHAVIORS

3. Did the teacher provide feedback on student attempts to think more clearly about the problem? Mark your response on the line below.

<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>
no	sometimes	sometimes	almost always
feedback	slow feedback	quick feedback	quick feedback

4. Did the teacher seem to react and adapt his behavior to the thinking-searching behaviors of individual students?

<u>1</u>	<u>2</u>	<u>3</u>
no	some	an appropriate
reactive-adaptive	reactive-adaptive	amount of reactive-
behavior	behavior	adaptive behaviors

INDIRECT GUIDANCE AND ENCOURAGEMENT BEHAVIORS

5. Did the teacher provide indirect guidance without giving answers?

<u>1</u>	<u>2</u>	<u>3</u>
no direct	some indirect	an appropriate
guidance	guidance	amount of indirect
		guidance

6. Did the teacher offer encouragement for searching behaviors and solution directed behaviors?

<u>1</u>	<u>2</u>	<u>3</u>
no	some	a lot of an
encouragement	encouragement	appropriate amount
		of encouragement

PART 4

Climate - reinforcement of searching behaviors

Introduction

During the exploring-discovery phase, the pupils are actively engaged in searching behaviors. The teacher's role during this time must include behaviors which obtain for the pupils an atmosphere which facilitates exploring-searching behaviors. By reinforcement of the searching behaviors a discovery climate is created and maintained.

The exercises in Part 4 are intended to help you practice reinforcement behaviors which generate a discovery climate. In the following exercises you will be asked to play the role of a teacher or pupil or to observe a situation. After the role playing or observed situation is completed you will participate in an analysis discussion.

Exercise 1

You are to observe a simulated situation from a discovery classroom. When the situation is finished, critique the teacher response, and be prepared to suggest an alternative response if you think your response would differ from the one observed.

Situation

You observe a classroom filled with groups of students working together. A teacher approaches one group in which a pupil has his hand raised.

Student: "Our group has been working on the pollution problem, and we were wondering about the effect of pollution on the creek nearby and the living things in it." "Could we go to the creek for a while to observe and collect some samples of water and living things."

Teacher: "How long would you stay there?"

Student: "We might be gone a couple of class periods."

Teacher: "That might be dangerous, and you will need some equipment." "I think it is a good idea though."

Student: "We could really learn a lot about pollution down there."

Teacher: "Is that the problem for which you are seeking a solution?"

Student: "I think it is." "Can we go?"

Teacher: "I'm not sure if the principal will let us do that." "Suppose I check with the office and see." "It sounds exciting to me."

Now fill out the teacher behavior checklist for Part 4, Exercise 1 and consider these questions to begin your discussion.

1. Was the teacher's response helping to create or maintain a discovery climate?
2. How would you have responded in this situation that might be different from the observed teacher's response?

Part 4
Exercise 1

Teacher Behavior Checklist

Place a mark on the scales below at a point on the line which indicates the degree of climate facilitating behavior engaged in by the teacher in the observed situations.

Facilitative
Teacher
Behaviors

Teacher selects problems of a difficulty that the pupil can master.

little or none	some	an appropriate amount
1	2	3

Teacher makes sure that pupils are never to assume a passive role.

little or none	some	an appropriate amount
1	2	3

Teacher is nonpunitive and allows the child freedom to "wander around and discover" -- he makes it as easy for him to be wrong as it is for him to be right. This may be called the setting of a condition of "playfulness."

little or none	some	an appropriate amount
1	2	3

Teacher gives freedom to pupils to maintain a high level of motivation: freedom to define own method of attack, to define what an acceptable answer is, etc.

little or none	some	an appropriate amount
1	2	3

Teacher accepts wrong answers --- he does not protect the pupil from error.

little or none	some	an appropriate amount
1	2	3

Teacher allows students to monitor their own information flow.

little or none	some	an appropriate amount
1	2	3

Exercise 2

In Exercise 2 you will observe another discovery classroom situation, and you will analyze and discuss the teacher's climate facilitating behavior. You should also be prepared to discuss the ways in which your responses would differ from the ones observed.

Situation

The school carnival is three weeks away, and the class is responsible for constructing a circular screen in the gym to simulate a circus tent. The teacher has already introduced the problem of determining the amount of material needed for the screen. The class has been divided into small groups, and each group is to recommend a possible solution to the problem. The teacher is circulating around the class monitoring the groups, and he approaches a group seeking help.

Student "We think we need to measure the gym to see how long it is to see how big a circle we can make." If we find out the longest side that will tell us the largest circle we can make." "Can we go to the gym?"

Teacher "That sounds like a way to start finding an answer to your problem." "You may go right now if you wish."

The group gets up and begins to leave the room. The teacher walks over to them and asks them to wait a moment.

Teacher "Are you going to take something along to measure with?"

The group obtains a tape measure and leaves. A short time later they return and get to work. Soon they ask for the teacher again.

Student "We found the gym to be 100 ft. long and 60 ft. wide, and we are going to be able to make a 100 ft. circle."
"Some of us want to use a math book and some of us want to go to the gym and pace off the circle to find how far around the edge it would be." "What should we do?"

Teacher "Can you think of ways in which either the group would settle on one solution or both sides could try their solutions?"

Now, you will fill out the teacher behavior checklist for Part 4, Exercise 2 and consider the following questions to begin your discussion.

1. Was the teacher's response helping to create or maintain a discovery climax?
2. How would you have responded in this situation that might be different from the observed teacher's response?

Part 4
Exercise 2

Teacher Behavior Checklist

Place a mark on the scales below at a point on the line which indicates the degree of climate facilitating behavior engaged in by the teacher in the observed situations.

Facilitative
Teacher
Behaviors

Teacher selects problems of a difficulty that the pupil can master.

little or none	some	an appropriate amount
1	2	3

Teacher makes sure that pupils are never to assume a passive role.

little or none	some	an appropriate amount
1	2	3

Teacher is nonpunitive and allows the child freedom to "wander around and discover" -- he makes it as easy for him to be wrong as it is for him to be right. This may be called the setting of a condition of "playfulness."

little or none	some	an appropriate amount
1	2	3

Teacher gives freedom to pupils to maintain a high level of motivation: freedom to define own method of attack, to define what an acceptable answer is, etc.

little or none	some	an appropriate amount
1	2	3

Teacher accepts wrong answers -- he does not protect the pupil from error.

little or none	some	an appropriate amount
1	2	3

Teacher allows students to monitor their own information flow.

little or none	some	an appropriate amount
1	2	3

PART 5

Springboards

Introduction

In previous exercises you were introduced to "Springboards". In the following exercises you will be given the opportunity to experience applications of these discovery teaching techniques. Remember pupils improve their discovery skills at differing rates; therefore, discovery teaching strategies will be applied differentially. This is especially true of springboards.

Exercise 1

You are going to observe a geography class engaged in seeking a solution to a settlement problem. When the situation is finished, complete the teacher behavior checklist and then critique the teacher's responses which were intended applications of springboards.

Situation

The class has already received a small simplified map of a hypothetical area. The problem is to locate the most likely place where a town or city might be found. The teacher is circulating around the room monitoring the groups of pupils. One student signals the teacher for aid.

Student: "I am going to use some of the ideas about the settlement and location of cities that are in the geography book to help me get the answer; is that OK?"

Teacher: "That sounds like a good idea." "Do you think that you may learn that there is more than one good answer?"

Student: "I never thought of that." "Is there more than one answer?"

Teacher: "Perhaps your book will help to answer that question."

The teacher moves to another pupil.

Student: "I have re-read the geography book and now I can see several places where a town might grow, and I can't decide which is best."

Teacher: "Why don't you explain the reasons for and against each location to Roy over there." "He seems to have the same problem as you."

Another pupil calls for the teacher.

Student: "I have found the answer to the problem." "What should I do until the rest of the class is done?"

Teacher: "Perhaps you could think of some interesting twist to the problem that could be fun to work on."

Student: "Like what?"

Teacher: "What if you were going to settle in this area and the date was 1600 instead of today?"

Student: "Well, I'll think about it."

Now fill out the teacher behavior checklist for Exercise and be prepared to discuss the application of springboards to this situation.

Teacher Behavior Checklist

Part 5

Exercise 1

1. Did the teacher use any "springboards"?

Yes _____

No _____

2. If springboards were used which ones?

Application _____

Extensions _____

Explanation _____

3. Were they applied appropriately?

Yes _____

No _____

4. Were there opportunities for springboards which were missed? What?

Exercise 2

You are now going to participate in a role playing situation designed to allow you to observe or practice the use of springboards in a discovery situation. The exercise will continue until the teacher exhausts the possibilities for the application of springboards in this situation. After the situation is terminated you will fill out the teacher behavior checklist and participate in an analysis discussion.

Situation

The teacher has posed a problem for your class on the topic of location-settlement geography. The problem is for each group in the class to decide where the best place to locate a town might be on a map of a hypothetical area. You will be divided up into groups and use the accompanying map found on page 30 of this workbook. One or more of you will play the role of the teacher to practice the use of the springboards in a discovery situation.

Now fill out the checklist and be prepared to participate in the analysis discussion.

Teacher Behavior Checklist

Part 5

Exercise 2

1. Did the teacher use any "springboards"?

Yes _____

No _____

2. If springboards were used which ones?

Application _____

Extensions _____

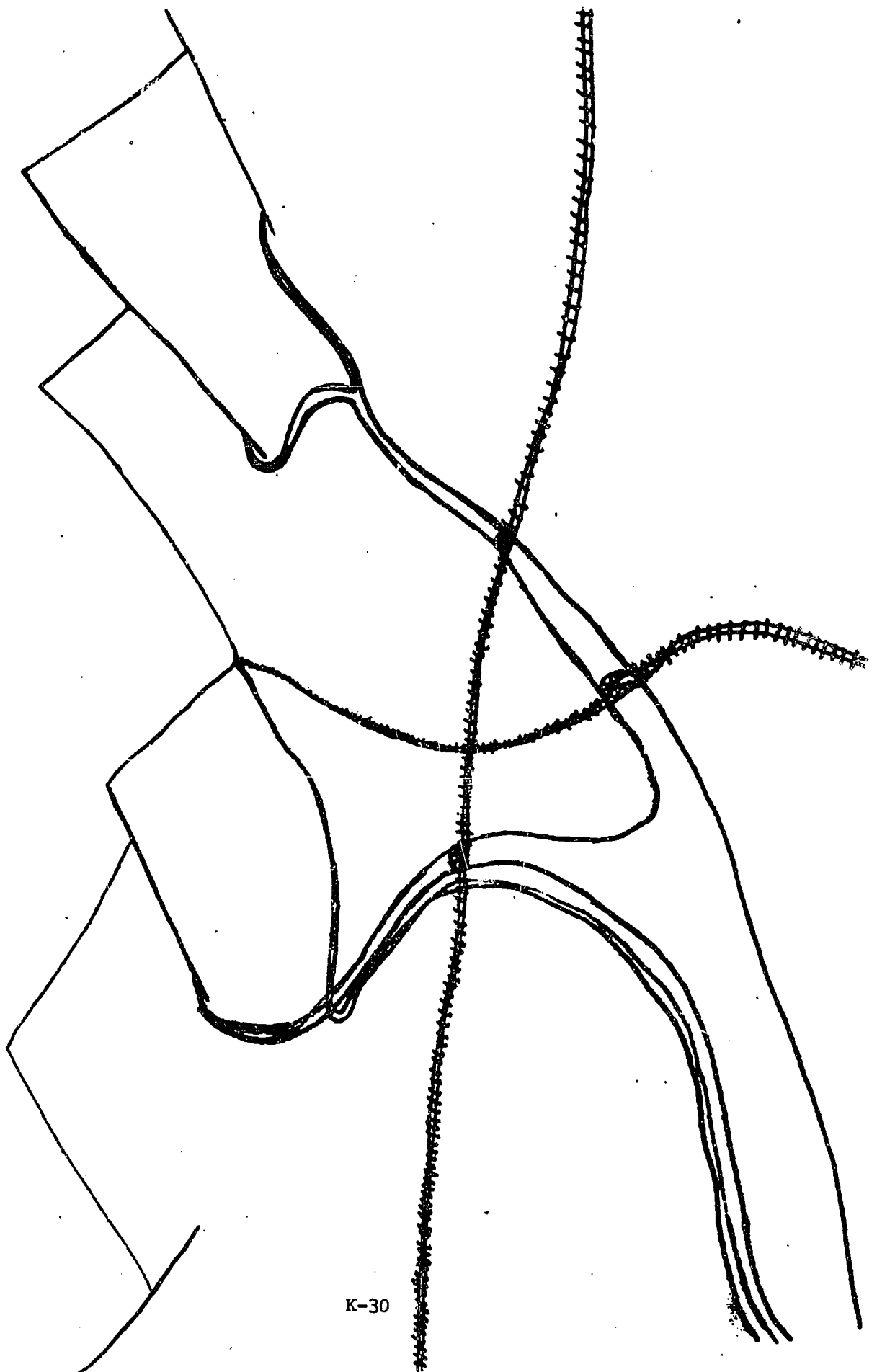
Explanation _____

3. Were they applied appropriately?

Yes _____

No _____

4. Were there opportunities for springboards which were missed? What?



K-30

Exercise 3

You are going to observe a situation designed to illustrate the use of springboards in a discovery situation. The exercise will continue until the opportunities to apply springboards is exhausted. After the situation is terminated you will fill out the teacher behavior checklist and participate in an analysis discussion.

Situation

Your social studies class has been studying map reading. The class is working with maps which employ shading to show elevation. You have given the class several location problems to see if they understand the elevation indicated on the map. One bright student has finished before the others, and he has asked for your attention.

Student: "That was easy; what do I do now?"

Teacher: "Take a look at this map; it used color instead of shading." "See if you can do the same problems using this map."
"You may find an interesting relationship between these maps."

Teacher Behavior Checklist

Part 5

Exercise 3

1. Did the teacher use any "springboards"

Yes _____

No _____

2. If springboards were used which ones?

Application _____

Extensions _____

Explanation _____

3. Were they applied appropriately?

Yes _____

No _____

4. Were there opportunities for springboards which were missed? What?

PART 6

All Behaviors in Context

In Part 6 you will have the opportunity to practice and observe the application of all the teacher discovery behaviors from parts 1-5 in a microteaching situation. Your class will be divided into small groups of 4 or 5 students. You will be asked to prepare and teach a mini-lesson lasting approximately 5 minutes. You may choose the content of the lesson from your own area of specialization, however the concept chosen should be appropriate for use in a discovery situation. Immediately following the lesson you and the other group members will analyze the application of discovery teaching behaviors employed in the lesson. You may wish to have the opportunity to reteach the lesson to another group following the analysis discussion. Remember you are practicing the following.

1. making appropriate use of discovery
2. focusing on the problem
3. providing encouragement and indirect guidance
4. establishing a discovery climate
5. providing the springboards of application, intension and explanation

Appendix L
Discovery Teaching
Instructor Manual

**Low Cost Instructional Simulation
Materials for Teacher Education**

**Discovery Techniques
Instructor Manual**

July, 1970

**Teaching Research
Oregon State System of Higher Education
Monmouth, Oregon**

Introduction

This instructor's manual and the student manual are not proffered as refined instructional materials. Rather, they are to be considered as prototypes. Portions of the student manual are incomplete in some aspects. The film sequences referred to in some exercises are not included in these materials. In other exercises, the form and substance of activities and materials to be employed are merely illustrated or suggested by the text. However, the manuals do provide sufficient substance and guidance so that those users possessing a minimum of creative ingenuity can utilize these materials with reasonable satisfaction.

Purpose of the Training

Content: Because of the lack of clarity and/or consensus in the field with regard to the parameters of what constitutes discovery, the content of the student manual is an eclectic work. It represents an attempt to instruct students in the most important features of discovery teaching and learning as identified by recognized authorities. This work is intended as an introductory experience for students to focus on the characteristics of discovery learning and teaching as manifested in student and teacher behaviors occurring in a discovery situation. Below are listed the characteristics of discovery learning and discovery teaching which constitute the content focus around which the exercises are constructed.

Discovery Learning

- a. Learner perceives a problem
- b. Learner can bring to the situation no ready solution
- c. Learner exhibits solution-directed behavior

Discovery Teaching

- a. Teacher focuses students' attention on problem
- b. Teacher encourages student in his efforts
- c. Teacher guides student indirectly
- d. Teacher provides a climate for exploration
- e. Teacher provides "springboards" for further discovery

This "bare bones" listing captures the essence of discovery learning/discovery teaching so that students are allowed to build their own repertoire of behaviors most suited to their evolving teaching styles.

Audience: The discovery materials were designed specifically for college students entering for their first time a teacher preparation program. A typical population for whom the materials were prepared may be found at the Oregon College of Education, where a "junior block" program has been developed. In this program, junior-level college students participate in a number of laboratory experiences with children while receiving instruction in educational psychology and teaching methods. The student has an opportunity to:

- 1) Observe children and teachers in a variety of learning activities in all subject matter areas;
- 2) Design teaching-learning strategies that may be implemented in simulation experiences, in episode teaching, and in short student teaching experiences;
- 3) Evaluate these experiences personally

In this context, the discovery materials are supportive of the program, as well as supported or complemented by the program.

Objectives: After training, the student would ideally be able to use in a classroom situation behaviors in each of the five classes listed below.

- 1) Focusing on the problem
- 2) Encouragement of discovery
- 3) Guidance of discovery
- 4) Provision of a climate for exploration
- 5) Provision of "springboards" for other discovery

He would be expected to use these behaviors in such a way that the desired pupil outcomes would indeed be achieved. It is difficult to develop measuring instruments to assess in a direct and practical way these behaviors in a real life setting. Therefore, the stated terminal objectives are specified in terms of a performance of them in simulated or a micro-teaching situation. More precisely stated then, the objective of these materials would be that: junior level college students in a teacher-education program when involved in a simulated classroom or micro-teaching situation, and who have previously established teaching objectives which represent discovery outcomes and/or effects, will use behaviors in each of the above five classes in such a way that the pupil learning outcomes are achieved, as measured by a suitable instrument.

Modes of Training

Synopsis of the Discovery Materials

The instructional system is divided into two parts:

Phase I introduces students to the characteristics of discovery learning/discovery teaching. Additionally the students are taught the student and teacher behaviors exhibited in discovery situations.

Phase II exercises students in the practice of teacher discovery behaviors and provides an opportunity for the student to evaluate his learning and performance.

The Phase I instructional program uses an integrated set of materials, including a student manual and sound film presentations. The filmed sequences present a series of classroom episodes to illustrate the characteristics of discovery and the discovery behaviors of pupils and teachers. The Phase II instructional program uses a student manual within which simulation, role-playing, and micro-teaching situations provide the context in which students are to exercise the discovery behaviors learned in Phase I.

Phase I

The instructional program for Phase I contains four parts:

- Part 1. The three major characteristics of discovery learning, i.e., problem perceived, no ready solution, and solution directed behavior, and the four major characteristics of discovery teaching, i.e., problem focus, encouragement, indirect guidance, and establishing discovery climate, are presented.
- Part 2. The discrimination between examples and non-examples of discovery learning/discovery teaching is taught.
- Part 3. The purposes of discovery are presented.
- Part 4. Springboards, i.e., extensions of discovery teaching, are presented.

Two modes may be used in Phase I training.

Self instruction: Here, a student is provided with a projector which he can operate. Typically a private area or study carrel is used. If the noise factor is critical, earphones could be used. The manual is written so that the student is guided back and forth between short filmed episodes and the manual exercises with no outside assistance. When the self-instructional mode is used, it is recommended that opportunity be given regularly for small group discussion. Many of the points raised in Phase I can be profitably discussed. An alternate to this plan would be to provide a tutor that would always be available to answer questions and help students straighten out any difficulties. A schedule could be arranged to have several students studying in a room at one time, always within reach of support and guidance from an assistant or tutor in or near the room.

Small-Group Instruction: In this mode, three to five students could work together with the film projection system. An advantage to this system is that students have an opportunity to discuss between themselves pertinent points raised by the program. A disadvantage is that it, like the conventional classroom mode, paces every student with the group, not individually. Yet, this mode seems to be quite effective in practice. The specific equipment used, and the learning space arrangements are discussed in a later section of this manual.

Phase II

The instructional program for Phase II consists of six parts: Each part provides opportunities for the student to exercise the concepts and teacher discovery behaviors learned in Phase I. Part 1 provides practice in the decision making process of matching instructional objectives to the purposes of discovery teaching. Parts 2 through 5 exercise, in turn, each of the teacher discovery behaviors, and Part 6 exercises all of the behaviors focused on in the preceding five parts, i.e., Part 1 -- purposes of discovery, Part 2 -- problem focus, Part 3 -- encouragement and indirect guidance, Part 4 -- establishing a discovery climate, Part 5 -- springboards, and Part 6 -- all teacher behaviors. An additional adjunct to Phase II is a discovery teaching game. (See Appendix) Its purpose is to acquaint students with some of the problems and pitfalls common in discovery teaching. This game exercise offers a good opportunity for the practice and evaluation of decision-making under stress.

One mode is employed in Phase II.

All parts of Phase II employ small groups. Group analysis is used in Part 1. Role-playing is used in Parts 2 and 3. Students practice discovery behaviors and then participate with the other group members in an analysis discussion of the application of these behaviors. Simulated situations in the form of interrupted narrative scripts are used in Parts 4 and 5. The scripts are segmented in order to provide interspersed discussion activities. A micro-teaching technique provides Part 6 with the vehicle for students to exercise all teacher discovery behaviors. The student manual contains only a brief description of the activity to be carried out. You, the instructor are to structure the micro-teaching situation. Students should be allowed to select the content of their presentation. If video tape equipment is available, its use would be very helpful for immediate analysis and behavioral change over time. A competitive game, the Discovery Teaching Game, may also be used with Phase II materials. The game focus is the solution of problems commonly associated with discovery teaching situations. The content of the problems include the following themes: pupil-teaching interactions, teacher-administration interactions, and parent-teacher interactions.

Administration Considerations

Equipment: The Phase I exercises require 8mm or 16mm sound film projection equipment for the projection of the filmed segments. Multiple copies of role playing cards may be required for some Phase II exercises.

Video taping obtains immediate feedback for evaluation of performance.

Learning Space: Because of the almost complete use of either individual or small group activities, rooms with adaptive spacing arrangements, e.g., movable walls or partitions would be the most efficient setting for the use of these materials. If individualization of instruction is desired during Phase I exercises, study carrels with 8mm or 16mm projectors are required. The use of the Discovery Game requires a space within which groups can discuss issues without disturbing other on-going activities nearby.

Discovery Teaching

Instructor Manual

The Discovery Teaching Game

The Discovery Teaching Game

**An Exercise for
Students Preparing to
Be Discovery Teachers**

**Paul A. Twelker
Donald Kohl
Simulation Systems Program
Teaching Research
Oregon State System
of
Higher Education
Monmouth, Oregon
97361**

July, 1970

The Discovery Teaching Game

I. Coordinator Instructions

INTRODUCTION

This game was designed to acquaint individuals with some of the problems and pitfalls common in discovery teaching. Further, it was designed to provide a review of some of the important principles of discovery teaching.

Games are fun; participant interaction is often high, and competition is keen. This exercise offers a good opportunity for students or teams to practice decision-making under stress, and to evaluate the decisions in light of probable consequences.

SUMMARY OF THE GAME

The class is divided into teams composed of three to six players competing against each other for planning a discovery teaching experience and solving typical problems that beset (plague) such efforts. If there are more than five teams, two or more games may be run simultaneously. The game is quite lengthy, and is best broken down into periods of one hour a day for several consecutive days. The issues are arranged so that a wide range of problems are covered the first hour.

GAME PREPARATION

The coordinator should be somewhat proficient in matters of discovery teaching in case questions came up during the course of the game. He should read through the game rules and be quite familiar with the procedures followed by the students. Students should have completed some amount of work in the area of discovery teaching before the game.

GAME CONDUCT

Briefing. The following points should be covered for game participants:

- a) Discovery teaching has its share of problems and challenges;
- b) The game allows you to anticipate some of these problems and situations and to attempt to solve them;
- c) Emphasis is placed on your anticipating the various consequences of each solution you propose;
- d) The issues presented, and the answers you arrive at may be situation-specific. But to the extent that the game helps you to be aware of

common problems and issues and a range of possible solutions, then the exercise should be valuable;

- e. The game operation (see below);
- f. All decisions should be made with respect to a simulated class (see Appendix E, Classroom Management Orientation Manual).

Phase I. Teams are given copies of the Orientation Manual that describes a class, the school and the community. Enough time should be given to teams to study the booklet before the next phase begins. The composition of the class has an important bearing on decisions to be made.

Phase II. Brief the teams on the game procedure:

- a) One of the teams selects the first issue from one of three stacks. Each stack contains issues of increasing complexity or difficulty. The three stacks are weighted 1, 2, and 3 points respectively. The higher the score, the greater the risk for the team selecting the issue. On the other hand, the potential reward is greater. The selecting team wins or loses double.
- b) The issue is read aloud. In case of lengthy descriptions, multiple copies should be provided -- one to each team.
- c) Teams must then:
 - 1) decide what the problem is;
 - 2) determine what preparations might have been used to make sure the problem could not occur;
 - 3) determine what alternatives are available;
 - 4) determine the one best strategy to follow;
 - 5) predict the most logical consequence of their action.
- d) Each team in turn reports to the others on their conclusions.
- e) Scoring procedures are applied. (It is best if the game coordinator does not explain all of the rules ahead of time, but covers them only as needed during play.)
 - 1) if all three teams agreed concerning the best answer in terms of strategy and prediction of the consequences, then all teams would receive the specified number of points for that issue. The team that selected the issue would receive double the number of points.
 - 2) if two of the three teams agree, the two teams in agreement receive the specified number of points. The minority team subtracts the specified number of points from their score. If the team selecting the issue is the minority team, it

subtracts double the indicated number of points. If the team selecting the issue is with the majority, it receives twice the number of points indicated.

If the minority wishes to challenge the decision, or there seems to be little consensus concerning strategy or prediction of consequence among the teams, each team should then justify their answer in turn, and try to talk the other teams into agreeing with them. After the issues are brought out and discussed, a hand vote may be taken. Each participant is asked to vote for the one team that best answers the problem. That team is awarded the indicated number of points. Again, the team selecting the issue for that round either wins or loses double.

- f) A complete cycle of play is now accomplished. Another team selects the second issue from one of the three stacks and play continues as described above. In this case, the second wins or loses double for this round. When teams report their answers, it is recommended a set order of reporting must be followed; the team drawing the issue must report first.
- g) The team that receives the most number of point wins the game. If a team collects a large number of negative points, they may wish to secure consultant help -- that is, the services of one member of another team at a rate, in terms of points to the consultant's team, to be agreed upon.

VARIATIONS

- 1) With groups with some experience, it is often interesting to follow-up the game by having the participants develop their own series of issues to present to the group. These issues may be based on actual occurrences or they may be fictional.
- 2) As the exercise is set up, issues are divided into three stacks depending on their complexity or difficulty. After the coordinator is familiar with the issues, he may wish to reorder or revalue for a specific learner population. Students themselves may be asked to place new values on the issues.

II. Preparation of Game Materials

Listed below are all the resources needed by the game players. In order to play the game, the issues should be typed on separate sheets.

- a) Orientation Manual -- one to each player.
- b) Discovery Teaching Issues -- one to each team except in the case of lengthy descriptions.

Discovery Teaching Problems and Issues

- (1) 1. Create a discovery experience around the objectives of identifying unfamiliar examples of paintings by various painters.
- (2) 2. Your social studies team has been using the discovery approach in earnest for about five months now. An irate parent telephoned the principal demanding a hearing. His charge is this: "You have been teaching my children to give wrong answers and you don't correct them."

(For added interest, each team may want to role play this incident, one participant taking the role of the irate parent, and another taking the role of the principal or teacher.)

- (1) 3. Create a discovery experience around creating each of colors in the spectrum of the primary colors.
- (1) 4. Create a discovery experience around having students specifying events that most generally might be identified as precursors to historically significant events.
- (2) 5. Your social studies class has been studying the functions of local government. A student group wants to spend the day interviewing policemen and prisoners at the local jail.
- (3) 6. Your social studies class wants to talk to some Russians in town who are touring with an exhibit on Russian Life. The Russians have agreed to discuss and answer questions about Soviet education with your class. A local member of the John Birch Society called you to object to the trip.
- (2) 7. A parent has called you to complain that in your discovery class his child feels lost because you never give him any specific directions on what to do in class.
- (3) 8. Your class has been studying the services of local government including the police department. One of your students says, "I want to spend the night in jail." "The only way to discover what it's like is to go there."
- (3) 9. Your math class has been working on the problem of calculating how much material would be needed to construct a 4 foot high circular screen in the gym to simulate a circus tent for the school carnival. They are finished with the problem and want to buy the material. You discover the answer they have found is wrong. Should you allow the spending of school money to buy too much material? What can you do?
- (3) 10. Your class has been working with discovery situations for some time. A parent has made an appointment to discuss his child's progress with you. He complained, "that although this is supposed to be an American History class, my son seems to be studying a bit here and a bit there and there seems to be no

systematic order to the content of the class." "He won't know much about our history at the end of the year at the rate he is going."

- (1) 11. A student in your class has come to you after school. "I don't like this discovery stuff." "It takes you so long to get around the class, and then when you do get to me you won't give me any answers." "I want to go back to the way the class used to be."
- (3) 12. Your class has experienced the discovery method most of the school year. Near the end of the school year the yearly standardized achievement test was given, and you have just received the results. Your class has fallen way below the grade average. The principal has asked you to come to his office to discuss the situation.
- (2) 13. You have been using the discovery approach for several months in the new school year. You are sitting in the teacher's work room and a colleague in front of other staff members says, "I don't believe that this discovery method is worth a hill of beans." "From what I can see it's just an easy way out of doing any work in preparation for your classes." What is your answer.
- (1) 14. You have been asked to speak to the P.T.A. next Wednesday night and describe the advantages and disadvantages of the discovery approach.
- (1) 15. After school one day a fellow teacher has entered your room and says, "I am a little upset with this discovery technique you are using." "A lot of the kids in my classes are asking to use this method in our work." "You are really stirring up problems for some of the other staff members. Your answer is -- .
- (1) 16. The school counselor has approached you in the hall one noon hour and asks, "Could you tell me what characteristics of work skills and personality seem to be best suited for your discovery approach classes?" "I have a student I think might benefit from being in your discovery oriented classes."
- (1) 17. The English teacher in your school asked you at lunch one day, "I might like to try this discovery method in my classes." "Where can I learn about it?"
- (2) 18. During a preparation period a fellow teacher who has also been using the discovery method enters your room and says, "I'm getting very frustrated with this discovery approach." "I find that often additional problem focus is needed by students almost from the beginning of the discovery activity." However, by the time the activity has gone very far they are working on an entirely different problem." "How do I get them to work on the problems I plan?"
- (2) 19. This is the third discovery lesson you have planned. In the previous discovery experiences one student has required so much

reinforcement that you find it difficult to meet the needs of other students. How do you plan to handle this student in the next discovery activity?

- (1) 20. The school librarian has complained about the small groups of students from your social studies class who come to the library during discovery activities. She says they lack library and study skills. She has asked that in the future, you accompany them to the library as she doesn't have enough time to spend all of it working with them. How would you resolve this problem in a manner consistent with the discovery approach?

Appendix M

**Comments on the Classroom
Management System from
Subject Matter Experts,
Media Specialists, and
Consumers**

Student reaction was neither rejection or acceptance. Some concern about "duplication". Some felt system too basic and exhibited a "so what" attitude. Our use of slides and tapes were a hang-up in set-up time, place to work, etc.

Rate of development too slow. Repetition used excessively. Difficulty of pictorial presentation too easy. Situations as depicted not relevant for inner-city students. No realistic children's reactions to teacher behavior needed. The system has potential, but has some problems in design.

Why should the students have to try to remember the names of the kids in the class? This takes time away from the instructional goals.

Children's reaction to teacher behavior is frequently unrealistic. Students don't always do what they are told to do by the teacher. This bothered the teachers in inner-city schools. Too much writing for the students using the material. Typically they stopped writing all together. Too repetitive.

Phase I presentation is good theoretically in terms of repetition -- but students found that lengthy and boring. Certain parts are repeated too often, for example, the emphasis on norm setting. There is a lot of good about the materials, especially their purpose.

. . . .

Materials are a value with proper use. They are very helpful but tend to be tedious for some. Enjoyed working with these materials, and the meaningful way students learned about classroom management.

Need faster pacing and more emphasis on variety of sample situations. Repetitious. Too much time for management. Difficult to motivate a secondary school student teaching audience.

. . . .

Possibly a multiple choice pre-test would be more effective. Films superior to slides and tapes. A few technical problems need to be worked out. Lapse of time between narrations causes students to feel the presentation drag. Mrs. Mason appeared rather negative at times. Mrs. Mason came to class with preconceived rules of conduct that she imposed on the class, rather than have the class determine the rules. Class seemed to get more out of a short discussion between the situations rather than take the time to write their comments in their manuals.

. . . .

Too time consuming for the amount of content.

. . . .

Film-tape method of presentation is effective. Good for presenting to a large group at one time. The points made could probably be done in less time or with less materials.

. . .

Division of the work of the teacher's day was excellent. Teachers formal or cool attitude in methods of solving problems are questionable. Apparent was a definite lack of good teacher-pupil planning to avoid such problems as demonstrated.

. . .

Too long and is very uninteresting. Students felt it boring, repetitious and required too much time for its viewing period.

. . .

I'm glad I had the opportunity to participate in this program in full. Incidents can be discussed and interpreted effectively because they are not complex. The beginner can draw conclusions and make the needed generalizations on behavior etc. because we haven't muddied the water with details. Students should participate in the study before he has become deeply involved with his own class so that he doesn't bring complexity into the situation. I hope we will have opportunities in the future to expose all of our student teachers to the project.

Instructional system is up-to-date compared to the systems I've observed on my supervision. Situations do not generalize to inner-city pupils. I would become very wary of the constant workbook recording. I wish there were ways of cutting down on writing. Classroom Management would receive "top billing" on a list of concerns of beginning teachers I am certain. One student teacher said to me, "Since viewing the films, I feel much less afraid of management".

. . .

Rather difficult to motivate secondary school studies teaching audience materials. Certain parallels could be drawn, some are obvious, most were not. Films superior to slide/tape presentation. Self-contained, programmed package for individuals and small group work with an instructor might prove valuable.

. . .

Referring to a study at Pennsylvania State on the demise of probituary teachers, one of the most prevalent causes was classroom management/control. System certainly should aid those who need it. Very worth while to assist students in class management but need more time for discussion of incidents.

. . .

Materials will be useful if cut in half, or possibly cut in a third.

Materials such as these are needed. Perhaps a program could be reduced requiring less time for the presentation.

. . .

Should move faster. Examples of a typical situation for more than one pupil engaged in the problems.

. . .

Needs faster pacing.

. . .

Forget the cost and include motion picture for entire period. I really enjoyed working the simulation materials. It has been a pleasure to know reactions of students who are finally hearing about classroom management in a meaningful way.

. . .

It's becoming increasingly difficult to supply direct meaningful experiences under adequate supervision. These materials are a very helpful substitute however, they can become tedious and lacking a challenge for some type of students.

. . .

As an inservice teacher who has discovered many principles of classroom management independently, I was impressed by the materials. Great to see principles presented in well defined, workable manner. But disappointed by how little preservice teachers seem to identify with the materials.

. . .

Discrepancies between the film situation and the experienced teachers' response cause student discontent. This material fulfills the need to provide more meaningful prestudent teaching laboratory experience.

Materials provide vicarious experiences to students that would be extremely difficult to provide in other ways.

Appendix N

Comments on the Classroom Management System from Students

Comments:

**Low-Cost Instructional Simulation
Materials for Teacher Education**

**Shippensburg State College
Shippensburg, Pennsylvania**

Ideas emphasized in film were profitable to me. However, the acting and positioning of the teacher and students were not consistent from the problem through the teacher's strategy and pupil response.

Simulation materials very effective in showing everyday discipline problems, which might arise in the classroom. However, some of the materials were repeated too frequently, without significant change in classroom situation; it was very staged detracting from the effectiveness of it.

I enjoyed seeing various "problems" via films. Interesting in that I know I will be faced with such problems. I have met some of the problems through teacher-aide work. I agree with film ways. I would have benefited from more difficult or unique situations. In discussion, very often the problem talked to death before we viewed the teacher response; this killed interest; films staged.

Only real problem was the classroom in which the experience took place. This, I realized could not be helped. Was a worthwhile experience, giving us a chance to see problems we may run into, and a variety of ways in which they can be handled. The discussions gave us a chance to realize that no one really knows exactly how some things should be handled, and everyone has a different opinion.

I haven't had much experience in a classroom situation to really observe how to handle discipline problems except for my two weeks of observation. I benefited from seeing the simulation films and then discussing how the discipline problem could be settled.

Instructor did an excellent job. Many of the situations presented appeared at first to have little "meat," but the instructor asked questions covering ramifications not implicit in the presentation. This was a great lesson on how to ask questions. If my classroom is to be the "discovery" type I hope it to be, I need lessons and practice on asking questions to stimulate interest and get into the heart of the matter. A very good methods course. Very appropriate.

Some situations staged and highly improbable. Some situations too long.

Good because it created a simulated experience which I hope to be able to use in the classroom. The material taught provided sort of a instinctive response to classroom problems.

Worthwhile and interesting experience. I object to constant repetition and rehashing of the content. Gets boring after 45 minutes on one area and hearing the same thing 10 times.

Some of the situations seemed too simple. I think the overall program was very valuable. However, more emphasis on situations involving major discipline problems are needed to provide the future teacher with a broader background.

I thought the films were valuable if they would not be used as much; seeing a few of the problem situations would be enough to emphasize the main points in dealing with classroom management.

Comments:

**Low-Cost Instructional Simulation
Materials for Teacher Education**

**West Virginia University
Morgantown, West Virginia**

On some occasions narrator would not come through with the objectives. Camera should have played on certain situations for a longer period to allow the viewer more time to "size up" the situation.

Tape illustration - good; Phase II sometimes confusing - management not evident. Lot of repetition.

The last reel of Phase II stated that 10 out of 12 was passing - what if we didn't agree with the way the "model" teacher handled a situation? Were our answers wrong? Simulated teaching of value, but should be integrated into a class with student interaction and teacher student interaction; would make for better discussions which could develop more learning.

Classroom simulation, although beneficial in many respects, still allows for only certain aspects of one particular school environment. It helps me to be able to see how it should be done, and to compare how I would handle classroom situations, but only personal contact with students will give me the more substantial guidelines I will need as a teacher. Not waste of time, but lacks awareness of "real" situations (especially reactions of the child) has helped me to secure ideas about discipline, etc.

I believe I have learned some important uses in classroom management. It helped me to understand under what instance, public and private should occur.

Day 1, the situations were messed up, causing confusion at first. This section (Day 1,2,3) was not well explained or easily followed. Sometimes too many examples; too much repetition.

Phase II much too long. Situation could have been accomplished in six situations per day. Received benefit simulated classroom situation, because it presented classroom problem and gave teacher strategy of his own to work with.

Subject matter worthwhile and pertinent but too repetitious of the same type of disciplinary situations. The point could have been clearly seen by using 12 situations instead of 36 in Phase II!

Presentation should have been in motion pictures; the sound was bad; the simulation were somewhat unrealistic; entirely too much writing required; directions rather ambiguous; many segments were too short to see anything.

Too many situations to demonstrate the effectiveness of various desist strategies. Perhaps we could have viewed several situations - teacher strategy - pupil response and then done a few ourselves (stopping the tape to write, etc.). It was having to stop the film and write for 12 situations each day that was so time-consuming. After watching so many of these things. I began to lose interest-especially when many were very much alike.

Idea good, but slightly "run into the ground."

Phase I necessary; Phase II & III could have been eliminated; the repetition dragged it out. I feel part I and Phase II was adequate practice for learning the material. Simulation teaching student teachers could probably better identify with. The idea of amount of force (high, med. low) - (public, private) to be used could be explained better by talking exactly what would be typical of high, med., or low in public or private. To me this was rather confusing and hard to distinguish.

There were many instances when the classroom behavior wasn't evident on the screen.

Would have liked to replay certain areas on the audi-scan and technicolor with a minimum of regulation of the machine. Phase II was dragged out too long, made me lose interest. More classroom tactics in management should have been introduced (if there are more, which I think there are).

Many of the problems were due to students not following instructions about the film strips. (Stopping them in the middle). Need for more interest for the unit, if time permitted. Overall it added to our knowledge of classroom management.

Classroom management worth the time spent on it. The trouble with the unit was once in a while they didn't have the tape with the booklet, but other than that worthwhile.

Program very good unit on management in the program: Program I benefited from. Difficulty in understanding of procedure used in Phase II. Took me a while to fully understand what was to be done.

Classroom simulation benefited me in 5 different ways listed on student attitude questionnaire #'s: 20, 22, 23, 25, and 27. Too much repetition. Too many almost - similar situations. Phase II 1 day would have been sufficient. (Time element here!) Fault partly mine difficulty getting into the situations because so often I had to try to find a tape that had been run all the way through, or else wait for one to complete its course. This was rather annoying to me.

Phase I and II beneficial, the only problem was the amount of time it took to complete instructions.

Machines weren't in proper working order all the time, sound sometime ahead of the picture.

Worthwhile; came close to the direct experience of being in a classroom as possible. The film presented actual true to life occurrences which will be happening to use in the very near future. This simulated teaching posed problems and answered questions that are always puzzling but are seldom talked about or answered. I found this very helpful and beneficial.

Children deciding rules to follow at the beginning of class, not only good but it works.

Very well organized system. But too much repetition in the 3-day segment.

Overall program good, but somewhat repetitious which tended to get boring after awhile.

More explanation should have been in Phase I; started out fast. I was four situations behind before I knew what I was suppose to be doing even after reading the directions. So I had to re-run the first film.

Classroom management very interesting; appropriate to elementary education. Gave good examples of typical school day.

Considering amount of material to be learned, it took too much time.

Phase II much too long - after Phase II part 1 took will-power to complete part 2 and 3.

The system should have an explanation more extensive than is presented. I worked most of slides and pictures okay after I viewed them once without writing any responses in the manual. I liked the idea of presenting material this way.

Phase II days 2 and 3 much too repetitious; days 1 and 2 would have been sufficient enough.

Phase I beneficial to me; Phase II entirely too long; unnecessary to have 36 situations each with some requirement as to what you were supposed to do. A shorter number would have been beneficial, since I got bored and then didn't really care what I wrote. After a few (3-5) situations I understood what to do; hence, 36 situations made busy work without additional learning. 12 situations would have been sufficient and more interesting.

Difficult to hear clearly, especially on motion film, due to noise of the projector, beginning situations were misleading at times, or hard to define due to camera angle--or the camera being too far away. It was necessary to go on the teacher's response before the incident could be defined, as in the case of the boys on the playground bothering the girls. One incident I felt unfair - where the incident showed two boys fighting over a book. After writing what I would do, and switching on the teacher's response, I found that she had stopped them before they began to fight, which was good, but clearly not fair to the person evaluating and writing, as we supposed the incident occurred as first presented.

Comments:

**Low-Cost Instructional Simulation
Materials for Teacher Education**

**Brigham Young University
Provo, Utah**

Note: Two groups of student remarks are included. The first group of remarks (Group A) represent a typical cross-section of student teachers. The second group of remarks (identified as Group B) were given by students whose college student teaching supervisor who taught the material was negative toward the system.

Group A

Things I like about program:

Emphasis it gives to the three major roles a classroom teacher plays,
Instructor
Classroom manager
Therapist

Importance of teacher's position as she or he conducts various classroom activities

Opportunity students have to react to a variety of classroom situations, and compare their reaction with that of an experienced teacher.
(This is best done with the use of the books or small group discussions.)

Public and Private Control of individual children.

Things I would change:

Too many negative experiences

Too time consuming

Needs more variety in types of responses for students to make

In dealing with the films, I thought that the slides were quite meaningful. The last couple of films were a help. I did think, however, that many situations were idealistic. The films needed polish as to the student actions, and reactions. The problems dealt with were handled very well. I did think that many times the children were acting as though directed. The most effective or realistic picture throughout the entire film was when the children all ran from their seats to the door. Their action and the teachers reaction were typical and I felt correct. When asked a yes and no question children usually answer with yes and no and so the example of this was ineffective because the children nodded. This type of yes and no question usually brings bedlam into the classroom.

I felt these had many good points but they didn't deal with anything that we really want information on. They showed ways to say "stop" "shut-up" etc. but didn't tell how to encourage children to want to change their inner selves or inner behavior. I enjoyed the helps in very surface restrictions but I need help in getting children to learn the reasons for their own behaviors.

The films were very unreal. The situations happen but not the way they were portrayed in the films. On the whole they were quite good but I wish they weren't so elementary-I wish they were more advanced along the therapist line.

The presentation had many good points but I think we got bogged down in repetition. It was almost an insult to our intelligence in parts with repetition of situations and solutions to said problems. I liked the means of positive correction expressed in management rather than terming it negatively as discipline.

I feel that the filmstrips and movies on discipline helped me in some areas of classroom management. The procedures of handling the situations were good in helping the children to feel accepted and not persecuted and with little disturbance.

I feel, however, that some of the situations and pupil responses were somewhat idealistic. I needed to find out how the "smart-alec" is to be treated; the one who says "no" when you say "let's remember our rule and not do that."

I feel that the filmstrips and movies could have dealt with helping the problem children such as Sam, not just keeping him under control.

I felt that this presentation was good had it been a little shorter and less concentrated on rule making.

The situations in most cases were idealistic and tense, which probably came about because of the photographing and microphones which the children were aware of.

The teachers were good in their handling of the situations, but they seemed too tense also, and I had a hard time identifying with them because of the formal atmosphere.

I felt also that some of the children needed more forceful discipline than was exhibited in the film.

I think the film and filmstrip presentation had an overall good point, and brought some good ideas, but does need refining.

Sometimes the situations were not clearly defined. (As far as pupil response)

I preferred the slides to the film, because the situations were clearly defined and they were more desirable to look at physically.

I appreciated learning about some of the correct and incorrect methods of classroom management.

I felt it was too long and drawn out to be covered in only two days.

I don't think it would be necessary to see all the film strips and all three films.

The amount of instruction covered in the five hours could have been given by an instructor in one hour.

Most of the information was commonplace and extremely redundant.

I feel like I would have gained lots more if we could have seen the films over a period of several days - although the repetition really cut down the amount of interest I displayed.

It is a rather inferior way of teaching discipline - I would have enjoyed a lecture by Dr. Berryessa much more.

I feel that I gained quite an insight into disciplinary measures and how to gear certain responses to different situations.

There were too many repetitious situations. The slides and films were very much the same.

I could see myself making many of the incorrect responses to situations, and the slides and film helped me to realize how I can better handle problem children. But in many instances the children would not react as they did in the slides. They could have shown more realistic responses that you can get from various personalities.

I liked the objective the films were pointing out, especially the awareness that I obtained pertaining to public and private desist and the degree of forces. Many times I felt the situations and their results were too idealistic. Children need to be prepared for what is ahead of them but I felt the rule bit became overplayed. If that many rules were established for everything they set out to do I feel they wouldn't be very effective and just because the children have rules doesn't mean they won't break them. I've never been upset because children do something that has not yet been determined as unacceptable. I have been concerned on how to control a situation of when a child deliberately breaks the rule after a full understanding. I also felt these films dealt more with the misbehavior of individual children in a class. I've wanted to know often what to do with the majority of the class acting up especially when I'm trying to present something.

Thoroughly enjoyed slide and films.

The films looked a little fake and more idealistic than the slides.

Excellent idea of children making rules to discipline themselves with.

In the film the man teacher was sharp and then softened his voice. I think this was good.

When they dismissed noisily for recess they were told sharply to return to desks. Then discussion took place. Good.

The children respond more when they are involved in setting up their standards.

Some of the things that took place I feel wouldn't have worked in an ordinary situation.

I learned a lot from this experience.

I think both the slides and film could be used very effectively. I gained more from the slides than the film -- partly because of the situations presented in the slides and partly because there was little acting shown in the slides. The acting in the film was too obviously regulated, cued and unnatural. I saw more discipline problems similar to the ones I experienced, in the slides than in the film.

The only thing that was really bothersome to me about the slides was the bell. The bell could have been a lot more subtle. My head rang every 10 seconds for hours afterwards.

The idea of making rules was an excellent one, but grossly overused. I felt that children would have been tired of rules and rebellious toward them.

The children were idealistic in their responses to discipline. No one talked back; no one was upset by being disciplined, this is a wonderful condition to achieve, but not in every situation given.

The break-down of situation, teacher strategy and pupil response gave good insight into the handling of a situation, but after these became familiar to us (which was certainly achieved by the time the slides had all been shown) this constant interruption to identify what was happening was useless, time consuming, and broke into the thought and concept of the problem.

The film was especially good, but too much repetition of the slides. New situations, even new teachers would have been a welcomed change.

Some of the discipline procedures were excellent, given good insight into the most wholesome way to discipline a classroom, particularly the simple control of just moving to the area where the commotion was or just "giving the child the eye." The situations were actually what we encounter.

As I'm sure everyone agrees, there was far too much repetition of the situations. The actions were too much "to script" which probably couldn't be eliminated. By the way, could there possibly be some other sound used with the slides than that horrible "blip"?

I am glad that we could see this after one experience because many of the discipline situations we had experienced. Going into the next experience with this behind us will be very good.

I don't think that these presentations are that necessary. I feel the way I have been handling discipline is just as good or better than what has been shown. I do think that the repetition was unnecessary. Many of the situations were unrealistic.

I did gain some help from the slides and films, but I thought the repetition was unnecessary. Also, it seemed to me that the situations were often too idealistic and didn't always reflect the true reactions of students - at least the ones I have seen. Most helpful to me was the work with good ways of having the students set up positive behavior standards for themselves. I liked the slides best - but they would have been better if shortened. Perhaps this was because we saw them first, so the films seemed more repetitious.

To me, the slides and the films were very repetitive. Even if I would have seen them over a 17 hour period, they would soon be tiring.

The slides during the last half went too fast and some of the scenes in the film were too short also. I didn't feel as though the classroom situations were real enough. The answers and responses were very monotonous. They were either too far positive or too far negative.

For teachers with some classroom experience, I feel if they were to see 2-3 carousels of slides and 1 film would be enough. For students entering their first experience more of each would be helpful.

The objective behind the slides and films is good but just too monotonous.

The examples that were shown were very good I especially liked the way the pupil response was shown. There were several things that might have been included which would be helpful - examples of children who continually cause trouble even after being reprimanded and those who talk back. (serious problem children)

Some repetition is necessary, but I believe it was over-done; in most cases as oral review would be better.

I thought the film had some excellent points. But I felt that it was designed for an average group of children with few real discipline problem children. Even Sam responded idealistically.

To me, it (the film) would have helped me more if it had shown how to handle the children who don't respond idealistically. For example the smart-alec that will talk back; and the classroom clown etc. These are the types that need the discipline more than the average child and the type that teachers need to learn how to handle.

But again, I think the techniques for general classroom management that the film showed were excellent.

Group B

In looking at this objectively, I feel I gained very little from the demonstration. There were a few good points brought out, but these few were repeated so many times that I feel it definitely was not worth the time we spent, and particularly would not be worth 17 hours of time.

I think the class time during our student teaching is extremely valuable and could have been used to our better benefit. A much shorter and improved edition of this may be good in another T. E. class.

I think it would have been better to have only the movie series the slides moved too slowly. Many of the scenes seemed to be too "canned." The experiences were in general valuable to see but there was too much repetition of the same material which could have been illustrated in one incident. It was too slow moving and became boring. Will be of great use in 301 if shortened.

I thought that just half the slides and maybe one of the films would have been good - the rest I felt was a waste of our time and we could have done something much more worthwhile.

It was so repetitious and idealistic that I feel it lost most of our attention.

I believe for the most part this has been a waste of time. Granted, there were some excellent concepts presented but I think the same material can and should be presented in a more realistic, effective manner. The repetition was insulting. The surface level that they continued to dwell on was superficial. The beep beeps were obnoxious on the slides. Rules should not be made for every detailed action in the classroom as seemed to their opinion.

My evaluation of this film is negative. I feel maybe if it was more refined and had some variety I could have stood it. As it is now, I feel I've wasted my precious time. The situations seemed unreal and I felt treated like a child myself because of the nerve-racking repetition.

As for the tapes and filmstrips, I was again about driven crazy from the constant "beeps" and the lack of congruency and organization. One of each situation might have been alright, but seeing and seeing the same things over and over I went crazy. It was not effective to me.

I got tired of seeing Teacher Strategy and pupil response written. It wasted time. We recognized the strategy and response and didn't need to be told.

The classroom situation was idealistic. The students responded to everything the teachers in the films did, and they responded quickly without moaning, which is pretty unusual. There was far too much repetition in the slides especially.

Some of the concepts didn't come across.

We didn't need to see the students sitting still before the words teacher strategy came on. Some of the slides and film were not needed to get the point across.

The film strips were much more effective than the movie which was difficult to keep track of.

Much too lengthy - duplication and repeats - not real to life situations in most instances. The repetition of instances was absurd. Not all the film strips even need to be shown as they are sheer repetition. The first 3 reels shown over a period of time would be ample and beneficial to the behavior problems at hand.

I felt we had already covered this material guide ample in both our classroom procedures and during the student teaching experience. Normally the kids just don't wheel off and belt someone - there is usually a pattern and these shown examples were far from real.

Too slow - needs speeding up. Became bogged down with reading of the slides - Ugg!

I felt that this was hard to recognize the value of.

First the situations were quite unrealistic of actual classroom behavior.

The slides were quite boring and didn't move fast enough.

Perhaps if this were given to students before they were in student teaching it would make more sense.

Generally I found them a waste of time and of not much educational value.

Too unrealistic, slow moving and just plain boring and the continuity was difficult to follow.

There was too much repetition. The slides and the film were basically the same.

Some of the scenes had no point to them that I could see. Although, it might have been better if there had been more discussion. Still, I think a lot could have been left out.

I thought most of it (especially toward the end) was terribly boring.

However, it did make me more consciencious of my own actions. This, I thought was good. I could see many ways that I could improve. Also, a few good points were brought out in the first.

Some of the situations helped me out considerably and will be very useful in the future. I think, however, most of these have been covered in our 420 class and I feel we could have used the time for something else. The rules became monotonous after a fashion and I think generally the class was bored. I hope the department does not purchase these films. They just seem to drag along. One day was plenty for the film.

I liked the ideas presented. The students were unnatural but the circumstances were natural. It gave me some good ideas but some of the situations were too repetitious; especially when they, the "teacher strategy" and "pupil response" cards kept flashing on. It was obvious what was going on. It went very slowly. The messages could have been given much faster. The part on singing was poorly done. The "Beeps" were terrible on the ears.

I believe the series of filmstrips and also the film were too much. The monotonous repetition was unnecessary to put the point across. I think that the first three filmstrips were important because of the explanations that were given. Maybe they could be shown in one hour to a group of student teachers. I believe a discussion could follow, but this is all. If a consideration is being made as to buying this series, I would forget about it. There are other series that are probably much better.

I was very disappointed in these slides and films. Particularly the parts in stopping everything for strategy and responses. We can recognize these areas. Too many of the situations were the same and repetitious. The situations were too ideal to really see the student response as it would be in a classroom. Everything in the film worked and in a real classroom situation you sometimes try several techniques on the same situation. I think the time we spent here was wasted for the amount we gained. The rule making supposedly in one day was too much!

If this were a classroom in fact, I feel that it was poorly handled. There was too much repetition and the defined parts were definitely ambiguous. The classroom situations often times were superficial and the teachers seemed to fumble at words and management. Even if this course were taken at even lengths of times; weeks, days, it still would be a waste of time. They needed more true classroom situations, unrehearsed.

I feel the only thing I learned was a new word, desist.

I feel that the presentation had few things to be gained. Some of the situations were believable but others were much too idealistic. The behavior was not that which would occur in a normal classroom. I didn't feel that I learned an awfully lot by watching the filmstrips and movie. I could have gained much more from a lecture. However, if we could have stopped as the instructions suggested, more would have been gained. As to buying the presentation, I feel that more can be gained by other means (i.e., lecture, discussion) than by the films.

For the amount of time we spent watching the same thing over and over, I thought it was very boring. I learned very little after the first two hours. The things I did learn that were beneficial were that the best manager spent the least time actually managing and the way we managed the class should be in the way least disturbing to the class and the teaching of it. I liked the pointing out of the types of desist strategy, helping us notice what types were best.

I felt that at times we really couldn't figure out what was going on.

I think that the films had some very good ideas in them. It made me realize some of the things I'd done wrong in teaching situations.

Frankly, I was bored during the filmstrip and I only listened to about half of it. There was too much repetition during the filmstrip and they dwelt too long on each incident. It moved too slowly for me. Some of the things were so obvious it was insulting to us.

I would use the film plus some good lecture material.

Appendix 0

Implementation Analysis

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: R. E. Albritton

Institution: Oregon College of Education

Type of course term (check one): Quarter X; Semester _____; Fall 68-69

Other _____
(Specify)

Date: January 12, 1969

I. Personnel:

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

Eight: Gengler, Harrison, Hiatt, Koch, Lund, Jensen, McFadden and Albritton

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

Manner of training: all staff were given a demonstration by Albritton. Each staff member demonstrated it before the students with one other member observing. (one faculty member was employed from the project during this year)

Time of training: varied from two to four hours

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

Selecting: none

Training: None

Assigning: primarily interest

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

In-Service
(Albritton)

1. In-Service with Salem Public Schools
2. Small Schools Project work-shop
3. Summer workshop in individualizing instruction

In-Service
(Gengler)

1. Small schools project

Information
(Total Staff)

1. A.S.C.D. Regional Winter Conference - Gearhart

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

- Library base for wider availability
- Use with workstudy students serving to correct synchronization of materials.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Scheduling: Materials were made available on an 8:00 a.m. to 11:00 p.m. basis 6 days a week and a 9:00 a.m. to 7:00 p.m. on 1 day a week basis through the library.

Personnel: T.R. and our own staff and work study aides have manned and serviced the materials from a study center area.

7. List the number and type of courses in which the simulation materials were used.

Basic Elementary pre-student-teaching or interning psychological-methodological courses - Ed 361, 362: Learning and Instruction in the Elementary School (9 hours each, total 18).

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

None

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

Dr. Harrison - special adaptations of the materials to get at philosophical orientations.

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

None

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

250+ Juniors in Ed 361: Lng. & Instr. in the Elementary School (Block I).

The materials were introduced total group (100 at a time).

Individuals or groups of 2 to 10 were then able to use the materials as they were able to schedule at their convenience.

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

The materials as they were able to schedule at their convenience.

3. Did you introduce any supplementary student activities in connection with Phase I training? No

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = 250 + 50

N = + 50

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

About 6 hours each.

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

One to 15.

All seemed to get more from having 2 or more look at the materials and discuss before answering.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

Day One was generally used to orient students - and at least 5 episodes to all 12.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

a. half day/week observation - participation - teaching in a public school "lab" setting.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

We have small "6' X 10'" rooms and "4' X 5'" rooms as well as a large area with a conference table that was used.

We recommend the availability of many varied size rooms.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

Earphones and junction boxes.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

Phase I Three audiscans and 3 sets of materials.

Phase II 1 set of films and 2 super-eight projectors.

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

Only problems of machine fatigue, tape and slide synch. problems.

Not sure unless buy better machines.

VI. General Reactions

L. Mention any major conceptual flaws that you have observed in the simulation materials.

1. Problem of teacher "ideal" reaction may have taken place earlier in problem scene whereas most problem scenes oriented the student to see it to the end. (May need a reminder frequently that says "be ready to react sooner if possible).
2. Neither phase does not specify, as a criteria, the statement of management objectives in behavioral terms of student behaviors.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

None

3. Additional comments.

None

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Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Paul E. Beals

Institution: Shippensburg State College

Type of course term (check one): Quarter x; Semester _____;

Other _____
(Specify)

Date: November 22, 1968

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

Seven (7)

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

A. Procedures

- (1) Viewing and discussing video-tape
- (2) Demonstration of material in faculty meeting, followed by discussion period
- (3) Individual inspection of Phase I materials and procedures

B. On the average of two hours each

(NOTE: The lack of familiarity on the part of several instructors with the Phase I materials definitely handicapped us during Phase II. This will be eliminated next term by reducing the number of instructor-participants to two, and student participants to 30.)

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

Those involved must accept the principles involved in simulation in general and in this package in particular. They also must be willing to devote time to learning the materials prior to using them.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

No special use made this term.

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

None

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Phase I

1. Students, in groups of 4-6, scheduled themselves into a conference room in the library which housed the tape recorder and projector.
2. Supporting Personnel.
 - (a) One graduate assistant who aided in scheduling the conference room and acted as a "trouble-shooter." Ten hours per week during Phase I.
 - (b) Regular library personnel were available to assist the students in case of equipment problems. This was extremely minimal.

7. List the number and type of courses in which the simulation materials were used.

Five elementary methods courses in the Junior Seminar block. These courses were: Teaching of Arithmetic, Teaching of Language Arts, Teaching of Reading, Teaching of Science, and Teaching of Social Studies.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

A speech delivered at the Pennsylvania Elementary Principal's Conference on October 31, 1968. The speech is not available in that the presentation was made from overhead transparencies. The presentation, entitled "Simulation in Teacher Education" and given by the writer of this report, covered the general area of simulation in teacher education. As part of the presentation, low-cost material was described, as was the role of Shippensburg State College in the field-testing of it. A summary of the presentation will appear in the Pennsylvania Elementary Principals' Association publication in the near future.

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

None

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

If it can be developed in time, we plan to use an instrument next term that is intended to measure the students' conception of the role of the teacher.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

None

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

- (a) total number - 85
- (b) 4-6 per group
- (c) approximately four hours per group

3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

None

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

N = 85

Mode B

N = 85

Mode C

N = 85

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

In two and one-half days we were able to complete Day I, and two problems of Day II.

6. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

Eighty-five students comprised the total group. This group was subdivided into six groups of approximately fifteen students per group, with one instructor per group who acted as group leader. We used a large lecture room with flexible furniture and all six groups viewed the problem at the same time. This was followed by a small group discussion of from 20 to 30 minutes. The small group of 15 was effective.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

In two and one-half days we were able to complete Day I, and two problems of Day II.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

After each situation was viewed, the students responded to the items in the manual. After this, each small group discussed their responses. This discussion often went beyond the immediate problem on the film, and long range solutions were suggested. In many cases the students discussed the reasons underlying the situation as in the case of a behavior problem. In addition, role-play techniques were sometimes employed to emphasize a point or to give students an opportunity to witness the consequences of a decision. This was done prior to seeing the teacher reaction on the film.

It was felt that the writing of responses to the items in the manual reduced the students desire to discuss the situations. Consequently, after eight situations, we required the students to write only what they would say and/or do in each situation. This seemed to encourage greater interaction among the participants in the small groups.

On several occasions the students requested that we re-show a situation after the initial discussion. Usually this was needed to clarify a point that had arisen in the group discussion. It appeared to be effective.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

Phase I. A conference room housed the tape recorder and slide projector. The room was approximately 12 feet by 12 feet in size. It was large enough for six students to work comfortably at one time. This room was restricted to this use. It was highly acceptable arrangement.

For Phase II, we utilized a large lecture room with enough flexible furniture for 120 students. Students were grouped in groups of 15 students per group. The projector was positioned so that all 85 students could view the film and then participate in the small-group discussions without moving about. This arrangement was satisfactory.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

None

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

One audio-tape recorder, one Kodak slide projector, and one 16 mm movie projector and accompanying screens.

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

The interrupted movement of the slides in Phase I bothered some students. In addition, on several occasions the slides and tapes became unsynchronized. It was necessary to start each section at the beginning when this problem occurred.

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.**

None

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

(a) Some situations may call for the provision of more background information.

(b) More close-up scenes in Phase II so that individual students can be readily identified in the filmed situations.

(c) Discrepancies between initial filmed situation and filmed teacher response caused some students to react negatively to the program. (Example: Situation #11, Day 1, fire scene.)

(d) After the students had been exposed to several situations they objected to always having to assume a position in the front of the room. This was compounded when they saw that Mrs. Mason or Mr. Warren assumed different positions in the teacher reaction film. It is realized that this is a technical problem, but it may account for some of the feelings expressed in the student attitude instrument.

(e) Some students did not need all of the repetition provided in both Phase I and Phase II.

3. Additional comments.

None

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Paul E. Beals

Institution: Shippensburg State College

Type of course term (check one): Quarter X; Semester _____;
Other Dial Access Facility
(Specify)

Date: June 8, 1970

I. Personnel

- 1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.**

One

- 2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.**

- 3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?**

None

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminar;; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

Pre-Service Education

Familiarization of principles of
classroom management

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

The use of the classroom management materials on a dial-access retrieval system.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Students could schedule themselves into the dial-access room of the main library during regular library hours. After a brief orientation by the instructor only one person, a library aide assigned to the dial-access facilities, was needed for the operation of the equipment.

7. List the number and type of courses in which the simulation materials were used.

Elementary Seminar - a pre-student teaching methods course.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

None

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

None

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

None

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

25 Juniors

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

None

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = _____

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)
5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

No special physical facilities other than the Audio-video receivers in the dial-access facilities.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

Dial-access transmitters and receivers.

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

None, except with technical difficulties with the automated transmitting equipment.

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.**

None

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

3. Additional comments.

Students became frustrated with technical difficulties with dial access materials. Not a fault of the simulation materials.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Jack H. Bond

Institution: West Virginia University

Type of course term (check one): Quarter _____; Semester X;

Other _____
(Specify)

Date: February 17, 1969

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

20 staff members at orientation

5 consulting staff previewed during summer

2 instructors used in class - Fall 1968

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

A. Demonstration of materials to seminar-type meeting on classroom training materials. Used materials with manuals and went through selected parts of Audi-scan Phase I and Technicolor Phase II. 3 hours.

B. Part of presentation to 3 college staffs on simulated materials for training teachers - 2 hours.

C. Materials given to consulting committee for 2 weeks for detailed study. Group oriented to identifying teaching behaviors and materials to train these behaviors.

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

Worked very well in a self-instructional mode. Incidents used for discussion material in a large group setting (40 students) after everyone had completed program.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

Committee for Identifying
Teacher Behaviors

Study of content and technique to
determine training outcomes.

Simulation

Example of another mode of presentation.

Instructional Technology

- a. Demonstrate Audi-scan
- b. Example of mediated programming
- c. Rationale of media production

Professional Information

Demonstrated at faculty meeting.

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

Remedial training for graduate candidates not meeting standards for admission to Masters program. Each was asked to go through materials on individual basis.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

A 20 X 20 room was equipped with 2 Audi-scans and 3 Technicolor 1000 projectors. The booklets were assigned in a class period, operation of Audi-scans and 1000's demonstrated and then attempted by each. Film materials made available "off-the-shelf." A schedule was set up allowing use of equipment for up to 2 hour blocks of time. A technician checked equipment each week and on call (only 2).

7. List the number and type of courses in which the simulation materials were used.

Ed 141 Elementary School Methods (Block type)

Ed Elementary School Curriculum (3 lectures/week)

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

Needed an academic type evaluation instrument.

We are now working on one for Spring.

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

Discussion of student's behavior when observed with a Flander's type scale revealed a use of the 3 roles of the teacher.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

40 Juniors prior to student teaching

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

A group discussion of the experience and the information on teaching roles. This was to give a place to react and obtain insights into possible students learning because an academic content evaluation was not available.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = _____

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

Ed 143

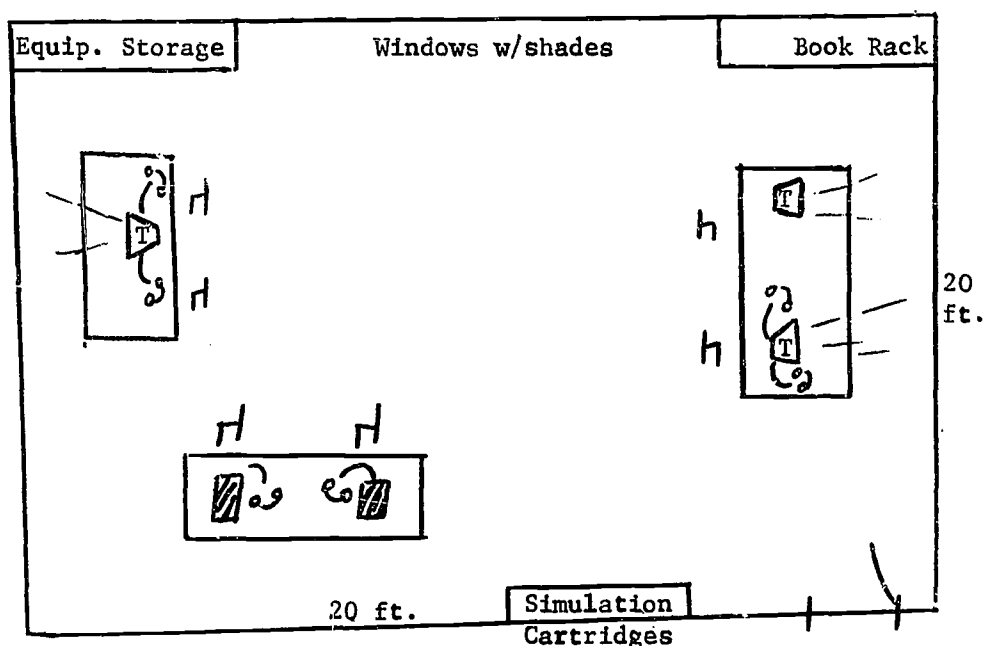
Situations in Phase II films were presented to group as discussion topic. Students had been in classrooms as observers, teacher aides, etc. but not teaching groups. Reaction was one that situation on film was rather obvious and elementary. More difficult situations were needed for the discussion group. (Also used Kersh materials later, and found the rear-projection-teacher-orientation more suitable to their purpose.)


Ed 141


Served in classroom as teacher aide for 2 hours/week. Had specific assignments-i.e., questioning technique, introductory lesson, testing lesson, demonstration, etc. in math, science, social studies, reading, and language arts. This may be reason for comments about not needing Phase II Day 2 and 3 films. They had their "day" for 2 hours everyweek.

IV. Physical Space


1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.



 Audio Scans

 1000's

 Head sets

 Chairs

1. Students had free access to room, equipment and cartridges.
2. Only two equipment failures were discovered or reported in 6 weeks.
3. Only one cartridge was not set back to beginning after use.
4. Equipment was available on check out to take home on weekends. Used two of 5 weekends.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

1000's could have been used with rear projection screens rather than wall mounted screens to allow for more pleasant room lighting when being used.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

2 Audi-scans
3 Technicolor 1000's

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

1. Advance mechanism on one Audi-scan was faulty but corrected by placing a paper match stick on top of "trip relay" thus shortening the string.
2. Start switches on 1000's needed to be tripped several times to start a given sequence after stopping. Not remedied.

VI. General Reactions

L. Mention any major conceptual flaws that you have observed in the simulation materials.

1. Phase II films:

- a. Confusion on when to operate stop when first using technique. Need clearer instructions or an automatic stop.
- b. One film out of sequence and mis-labeled.
- c. Need to get observer more involved in situations by using 1st person response mode.

2. Orientation:

- a. More shots of class settings of children and ask to identify.
- b. More integration (and/or interface) of records booklet and identification of children.

3. Phase I

- a. Integration of record information into situation responses and evaluations: Why was T response given interns of students as well as role.
- b. Writing takes too much time. How about Audio tape responses and play back and compare by factors or checklist?

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

Course Operators Manual:

- a. Need a script of Audi-scan cartridges so that resequencing can be easily accomplished when "out of sync."
- b. Number frames on Audi-scan so can tell where one is in the sequence.
- c. Add visual directions for starting cartridges especially on Audi-scan.
- d. How about a sample set of Phase II to practice procedure?

3. Additional comments.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: V. E. LUND

Institution: O.C.E.

Type of course term (check one): Quarter X; Semester _____;

Other _____
(Specify)

Date: December 13, 1968

I. Personnel

- 1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.**

2

- 2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.**

One member attended the Simulation Workshop

- 3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?**

No

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

Teacher Ed.

Introduction to classroom management
problems

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

None

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Teacher aides (Work-Study Program students) were assigned to an office which was the source of materials. These aides were responsible for checking materials - Audiscan and cartridges, technicolor 1000 and film in and out during the day. Equipment and materials were checked out overnight and returned the next day.

7. List the number and type of courses in which the simulation materials were used.

Ed. 361 Junior Block - Learning and instruction in Elementary School.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

None

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

None

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

None

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

28 students - Junior year

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

3. Did you introduce any supplementary student activities in connection with Phase I training? No

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = 28

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

6 hours

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

2 - groups of 12 - 14

1 - total group of 28

Smaller groups more effective - interaction among students not encouraged by size of group when it was more than 12.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

24 episodes - Day 1 & 2 for training

12 episodes - Day 3 for evaluation

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

Laboratory experience once a week. Students worked in classroom with children under teacher guidance from 9-12.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

The only space available was a conference room adjacent to the Materials Office. Several Audiscans were used simultaneously with earphones.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

None were found

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

3 Audiscan
2 Technicolor 1000

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

The method by which the problem was presented in the 1st part of Phase II necessitated my using a group mode (B) to orient the class better. They decided that this mode should be continued thereafter. This group mode used 16 mm-film.

VI. General Reactions

L. Mention any major conceptual flaws that you have observed in the simulation materials.

1. The manual continually refers to the norms which have been established - but does not state them. This was irksome and confusing to the students.
2. The teacher strategy would be inconsistent with the problem as it was presented to the viewer. The problem required action from a specific area - yet the strategy allowed the teacher to act from a far different position and several times the problem never materialized. Student reaction was one of dismay and sometimes disgust.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

3. Additional comments.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: James Phillips and Harry Forgan

Institution: Kent State University

Type of course term (check one): Quarter X; Semester _____;

Other _____
(Specify)

Date: April, 1969

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

Eighteen instructors participated in the field trial program. Nine faculty members observed and were involved in at least one complete cycle of the instructional system. These members operated the equipment, gave directions, and guided discussions. The other nine faculty members observed one-half or less of the instructional program.

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

Two members studied the materials individually so they could conduct the program. The other faculty members observed to become acquainted with the materials. After observing and studying the materials they were actively involved in directing the program. Approximately 12 hours were devoted by the individuals; whereas, the other members observed and studied approximately 3 hours.

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

Yes. Some faculty members rejected the instructional system without knowledge or experience. The only limitation we encountered was the individuals' willingness to experiment with new and innovative materials.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

<u>Area of Profession Interest</u>	<u>Use made of the materials</u>
Elementary Education (Conducted by centrally involved personnel)	Harry demonstrated the materials to graduate classes at KSU and Akron University. Field demonstrations were also conducted for staff members.

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.
- A. Use Part I of Phase I in a course concerning the analysis of teaching.
 - B. Use to help graduate students develop skill in supervision. The student teachers could respond and the graduate students could hold supervisory conferences.
 - C. Use in a course concerning child growth and development. Students could view the situations in Phase II and predict possible causes of behavior.
 - D. Part 2 of Phase I could be used to illustrate pupil-teacher planning.
 - E. Could be used with FTA students who frequently must teach in unfamiliar classrooms.
 - F. Could be used in an in-service workshop for those who are having difficulty managing the classroom.
 - G. The situations in Phase II could be used to stimulate discussion in student teaching seminars or in a course concerning the improvement of classroom teachers.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

The materials were only made accessible during the workshops in which group instruction was employed. Graduate students managed the physical aspects of the program.

7. List the number and type of courses in which the simulation materials were used.

The simulation materials were used in 5 workshops:
Summer, 1968- Fall, Winter, and Spring of 1969.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

1. Harry Forgan is completing a dissertation concerning the effects of the materials on student teachers. A complete complimentary copy of the dissertation will be sent in July. He plans to write an article for publication with Dr. James Phillips.

2.

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

This will be discussed in the dissertation.

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

This will be discussed in the dissertation.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

All of the instruction was with groups of students. A total of 150 students who were ready to begin their student teaching participated in the program and completed both Phase I and Phase II.

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

Summer 1968	9
Fall 1968	38
Winter 1969	32
*Spring 1969	37
	34

*Approximately 153 students were scheduled to attend the workshops during the Spring session; however, attendance was poor because of transportation difficulties, insufficient information concerning the workshop, and poor professional attitudes of some students. Approximately 10-12 hours were required for instruction. Phase I was completed in 4-5 hours. Six to seven hours were required for Phase II depending on the amount of discussion.

3. Did you introduce any supplementary student activities in connection with Phase I training?

No

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = 150

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

Six hours,

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

The group sizes were mentioned earlier. We found that a group of 35 was particularly effective. Small group discussions could be held as well as large group discussions. Special classrooms were not necessary to accomodate a group of this size.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

Twenty-four episodes were used for instructional purposes and twelve episodes were used for evaluation.

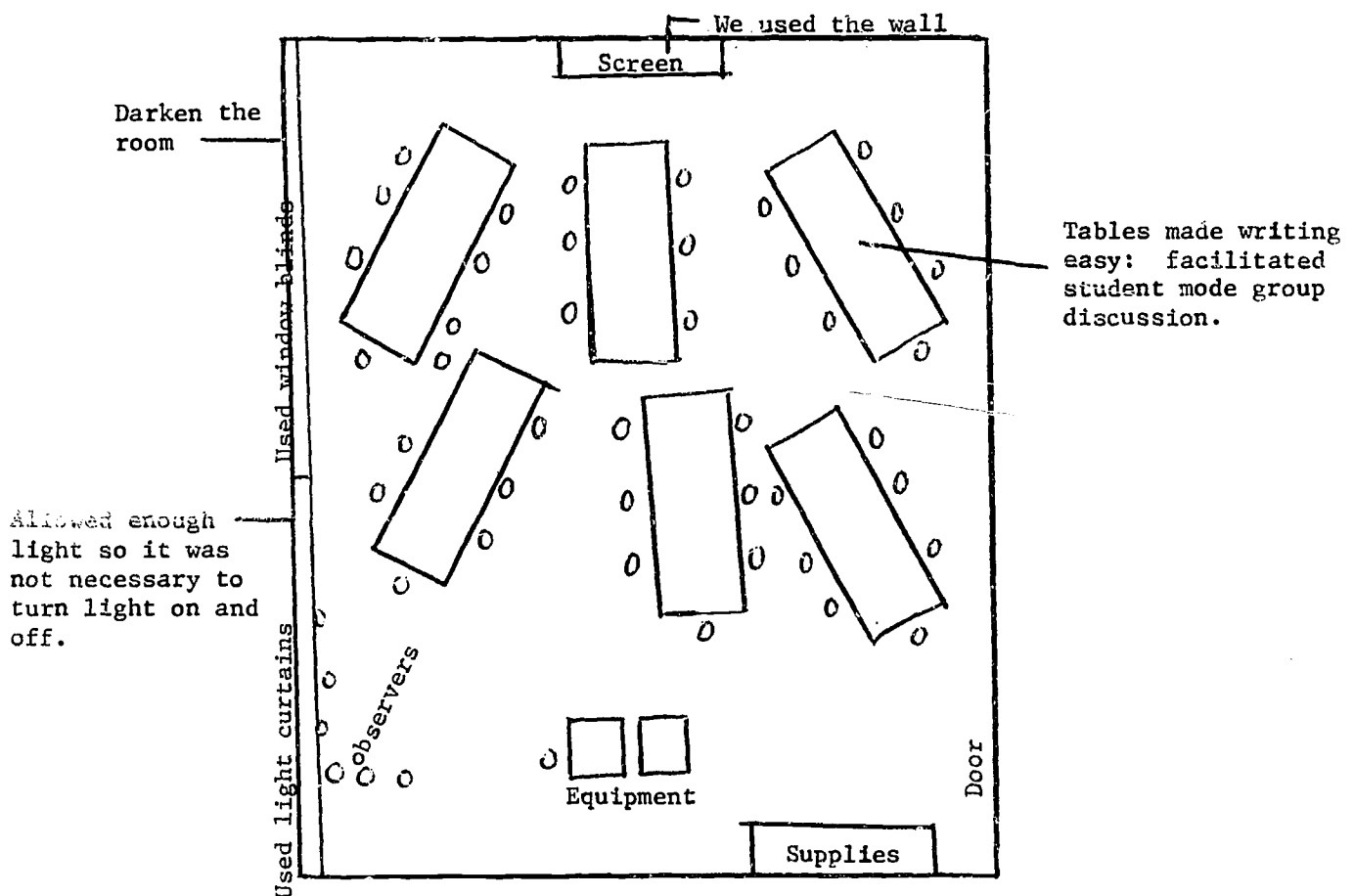
8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

Discussions were held as needed during Phase I and Phase II.

The students returned to their classrooms and were immediately involved in classroom management.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.



The room was carpeted, had comfortable chairs, etc. which provided a physical atmosphere conducive to learning. The students had coffee, soft drinks, etc. and were permitted to smoke. Small group and large group discussions were held.

With the larger group we could not use tables. It was found that the students did not discuss as much and were not pleased with the physical arrangement.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

See comments.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

16 mm. film projector with reverse slide carousel, stereo tape recorder, synchronizer.

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

None.

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.

We would like to compliment the staff members of the Teaching Research Division for producing an excellent instructional system which is needed by prospective teachers. It is evident that much planning was done to develop this program. We feel the major concepts are clear; however, we have the following suggestions:

1. Boys are misbehaving more frequently than girls. Research reports indicate elementary school teachers are more likely to see and correct the misbehavior of boys more frequently than that of girls. We think the materials perpetuate this tendency.
2. Present more background information for the context of the problems. This would make it possible to discuss possible causes of the problem and illustrate that problems do not occur in a vacuum.
3. Have the students write the management objectives before viewing the problem. This is logical because one has objectives in line before the problem occurs. Also, we believe it is logical to state the problem first.
4. Include some problem situations in which the students are more hostile toward their classmates than the teacher. Also, some students would like to have examples concerning cheating.
5. Include examples of how the teacher follows up some of her desist strategies. The pupils may or may not learn from the desist strategy. Also in the teacher response illustrate how the teacher determines possible causes of misbehavior.
6. If possible, a more comprehensive cross section of the population could be included.
7. Include pages with definitions and examples of the different levels of force and the private/public desist strategies. Also, provide an opportunity for the students to write the two principles.
8. More supportive behavior could be indicated in the teacher strategies.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.
 1. The students prefer motion to still pictures.
 2. In some of the situations in Phase II the problem which was presented was not the same as the problem which was shown in the teacher strategy. In some cases the strategy showed how the teacher prevented the problem before it developed. Examples are Day 1-situation 6a (pages 13-14), and 8; Day 2-10,11; and Day 3- 6. We think the materials should be consistent in terms of what activity has occurred before the teacher responds. Otherwise, some students are preventing each problem; whereas, others think only in terms of handling the problem that developed.
 3. In Part 5, include your responses to questions 1-3, on the pages immediately following the students questions. For example, the pages might be as follows: 36, 45, and 37.
 4. Include a place for the students to record their performance.

3. Additional comments.

The following suggestions and comments were noted:

1. Use synonyms for "rules". For example guide lines, standards, norms, procedures, etc.
2. We need to write long range behavioral objectives (for classroom practice) in addition to the behavioral objectives for the program.
3. The students believe there are too many situations in which the teacher is expected to establish standards; however, it was disappointing to find out that many of the student teachers never established standards when they began student teaching. In most cases the standards were established after the problems occurred.
4. The profiles in the cumulative records are difficult to read. Also, information is missing in the sociogram.
5. In the schools in our area the special teachers (music, physical education) are responsible for the discipline; consequently, situations 17-20 of Part 5 were not realistic.
6. The students liked the program materials in Phase I. Your responses were presented in a concise, clear, form.
7. The introduction to the program is excellent. Also, the instructions are clear.
8. The students enjoyed the variety of situations. Also, they liked the immediate feedback. The situations in general were very realistic.
9. We feel the pretest which we used in the Spring was partly responsible for students not completing the entire program.

It has been a pleasure to work with the materials in this field-trial program. We are very enthusiastic about the possibilities are happy to see prospective teachers who are enjoying a meaningful learning experience. It is evident there are many problems involved in developing such a fine instructional program. Again, we would like to say you have done an excellent job.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS

(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Arnold A. Slan

Institution: Illinois State University

Type of course term (check one): Quarter _____; Semester X;

Other _____
(Specify)

Date: February 24, 1969

I. Personnel

- 1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.**

Dr. Arnold A. Slan

Dr. J. T. Goeldi

- 2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.**

Previously reported

- 3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?**

The program does not present any problems, but the overload of instructors.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

See attached program.

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

Checked learning by using reel three as a test reel with a curriculum class not exposed to rest of program.

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

none

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

Used as demonstration at supervising teachers conference. Program was explained and displayed to 200 supervising teachers.

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Audiscan in separate room available to students from 8:00 a.m. to 10:00 p.m. daily.

7. List the number and type of courses in which the simulation materials were used.

One introductory course for freshmen

One pilot study in curriculum for seniors

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

24 seniors

30 freshmen

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

Use of tape and slide presentation for seniors approximately six hours. Freshmen used Audiscan for about four hours.

3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = 54

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

8 hours

6. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

Used all 24 in senior group as one discussion group.

Used all 30 freshmen as one discussion group.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

In each group, 6 hours for the training and 2 hours for evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

All 24 seniors were also engaged in pre-student teaching activities in the Metcalf Laboratory School.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

As described in previous report

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

One Audiscan projector
One 16 mm. motion picture projector
One Carousel slide projector
One tape recorder
One synchronizing device for the slide projector and
tape recorder

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

The employment of daylight screens for projection or some other arrangement that eliminated the necessity for the constant switching of lights would be desirable.

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.

The number of situations in Phase II in which the children simply sat and waited for instructions could have been sharply reduced without damaging the program. In the film for Day 2, Situation 1, students have consistently severely criticized the placement of materials near the doorway when these materials are not to be used at that time. In Day 2, Situation 2, the teacher's question "Is there trouble here boys?" invites a dishonest answer. In Day 3, Situation 1, the term "lunch count" is not a universal one, and I have found it necessary to explain its meaning in the context of this program before starting this reel. The indication preceding reel 3 that it is in some way a test causes the students who wish to do well to respond with a mental set of the program rather than with their own responses. I am not suggesting that reel 3 could^{not} be used for examination purposes but simply questioning whether or not the student should be informed of this use.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

The slide-tape mode of handling Phase I materials seems superior in its effect to the use of Audiscan and other such devices, but it is sometimes difficult to accept that a greater degree of synchronization between the sound tape and the slide is not possible. If there is any redoing of the film sequence, it would help to keep the teacher out of the picture as much as possible.

3. Additional comments.

Despite the suggestions for change indicated in Numbers 1 and 2 of this section, I still feel that this program has much to offer and would want to continue using it with our students. If one were to state the single most positive aspect of the program, I believe it would be that through this program the student learned to separate classroom control and discipline from the concept of punishment.

STUDENT TEACHING CONFERENCE

Theme:

PARTNERSHIP IN STUDENT TEACHING

February 12, 1969

9:00 a.m. to 3:00 p.m.

ILLINOIS STATE UNIVERSITY

Normal, Illinois

Sponsored by:

**DEPARTMENT OF PROFESSIONAL
LABORATORY EXPERIENCES**

STUDENT TEACHING CONFERENCE

Wed., Feb. 12, 1969

Theme: Partnership in Student Teaching

PROGRAM

9:00 - 9:45

Registration and Coffee

Second Floor Univ. Union
Multi-purpose Room

9:45 - 10:55

General Session

Third Floor Lounge

Presiding: Dr. Robert Goodall

Welcome: Dear Henry Hermanowicz

"Review of Professional Laboratory Experiences Programs
at ISU": Dr. Cecilia J. Lauby

Clarifying the Role of the Supervising Teacher:

Mr. Norman Ward - "Orientation to Student Teaching"

Dr. Mary K. Huser - "Early Student Teaching Activities"

Dr. Quinn Hrudka - "Interpersonal Relationships"

Dr. John P. Mees - "Evaluating the Student Teaching
Experience"

Following a short period devoted to appraisal of the remarks directed at "clarifying the Role of the Supervising Teacher" each discussion group will concentrate on:

1. examining problems encountered during supervision of student teachers,
2. identifying ways to make student teaching more challenging and
3. exploring means of sharing the responsibility for developing effective student teaching experiences.

Significant conclusions are to be reported by each recorder at the end of the session.

11:00 - 12:15 - Discussion Groups

Group I	Kdgn. and First Grade	3rd Floor Lounge
Group II	Second and Third Grades	Union 301
Group III	Grades 4-5-6	Union 304A
Group IV	Math. and Science	Union 304B
Group V	Special Education	Union 308A
Group VI	P.E. and Home Econ.	Union 308B
Group VII	Soc. St., Lib. Sci., Engl., Voc. Ed., Bus. Educ., etc.	All Purpose Room Second Floor

College Supervisors, Curriculum Directors, and
School Administrators select appropriate group.

12:30 - 2:00 - Luncheon Student Union Ballroom

Presiding: Dr. Cecilia Lauby
Greetings: President Samuel Braden
Address: "Partnership in Student Teaching"
Hans C. Olsen, Assistant Dean
and Director of Clinical
Experiences, University of
Missouri -- St. Louis

2:00 - 3:00 - Forum 3rd Floor Lounge

"Materials for Simulated Teaching Experiences" Dr. Arnold Slan, Assistant Professor, Elementary Education, Illinois State University
--

3:00 - Adjournment

CONFERENCE COMMITTEE

Dwight Coblentz
Robert Goodall
Virginia Hager
Paul Jones
Elwood London

DISCUSSION GROUPS -- WILL MEET AS FOLLOWS:

<u>AREA</u>	<u>ROOM</u>	<u>TEACHER</u>
Special Education	Union 304A	Mrs. Judy Smithson Miss Grace DeGirolamo
Kindergarten Pre-Primary	Union 301	Dr. Mary K. Huser
1st Grade	Union 3rd Floor Lounge	Dr. Claire Jacobs
2nd Grade	Union 304B	Mr. Kenneth Moreland
3rd Grade	Union 308A	Mr. George Richmond
4th Grade	Union 308B	Mrs. Ferne Crouse
5th Grade	Union 2nd Floor All Purpose Rm.	Mr. Donald Kachur
6th Grade	Stevenson 220	Mr. Elwood London
Mathematics Science Home Economics Vocational Education	Stevenson 314	Mr. Dwight Coblentz
Administration	Stevenson 223	Dr. James Mendenhall Dr. John Paul Mees
English Foreign Language Art Humanities Social Studies Music, Library Science	Stevenson 212	Mr. Norman Ward Dr. John Heissler
Physical Education	Stevenson 251	Dr. Donna Workman

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Dr. Arnold A. Slan

Institution: Illinois State University

Type of course term (check one): Quarter _____; Semester _____;

Other 2 nine week double block of time sessions
and 1 eight week (specify) summer session

Date: August 13, 1968

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

One

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

Other staff members in the Department of Elementary Education had the materials described to them at a departmental meeting, and all were invited to familiarize themselves with the materials of the Field Trial Center. They also were invited to sit in on the class sections using the field trial material.

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

No

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

None

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

None

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

The Audi-Scan and tapes were placed in a separate room available to the 39 students using them during the Spring session and the 14 students using them during the summer session from 8 a.m. until 10 p.m., Monday through Saturday. The audio-visual maintenance man was on call to assist students with any malfunctions of the machine. Each of the students in groups of four or five at a time were given instructions on the use and operation of the Audi-Scan program. Scheduling for use of the equipment was done by the students with some assistance from the instructor.

7. List the number and type of courses in which the simulation materials were used.

Two sections of a course entitled, Problems of the Elementary Teacher, which serves as a student teaching seminar, and one section of a course in primary curriculum were used in the field trial.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

With the two groups participating in the Spring, a contrast of the Audi-Scan program and the slide-tape program was attempted.

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

The high rate of interest and involvement on the part of the student participants would indicate the probability of a positive effect on the teaching behavior of the participants.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

95 students, all undergraduate in elementary education or special education, participated in the program. 81 of the students were seniors, the other 14 had junior standing. At least five of the latter group had previous, or current, teaching experience.

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

One group of 42 students saw slides and tape presentations for Phase I during their regular classroom periods. The other sections, 1 with 39 students and the other with 14 students, used the Audi-Scan program outside of class time for Phase I.

3. Did you introduce any supplementary student activities in connection with Phase I training?

None

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = 95

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

7 hours

5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

39, 42, and 14

In the cases involving the 39 and 42 student groups, we experimented with subdividing into sub-groups of seven or eight for discussion purposes, but gave this up at the students' request and worked as a total group.

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

In each of the groups, approximately five periods of one hour each were devoted to training and two periods of one hour each to evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

None

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

The Audi-Scan machine was placed in an 8x12 room at one end of a six foot long table. Five chairs were placed in horseshow fashion at the opposite end of the table. Phase II employed the use of the 16 mm. motion picture projector placed at the rear of a conventional classroom. It was discovered that it was much easier to operate Phase II materials in a room where the light switch was adjacent to the motion picture projector. The same was true for the use of Phase I materials where the slide-tape presentation was employed. It also proved to be quite useful to employ a 16 mm. projector with a reversing mechanism.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

See number 1.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.
 - One Audi-Scan projector
 - One 16 mm. motion picture projector
 - One Carousel slide projector
 - One tape recorder
 - One synchronizing device for the slide projector and tape recorder
2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?
 - The employment of daylight screens for projection or some other arrangement that eliminated the necessity for the constant switching of lights would be desirable.

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.

Conceptually, this is a fine program. I am sure that individuals would take exception to one specific episode or another; but, taken as a whole, the program is logical and consistent, and presents a sound philosophy of classroom management.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

In an effort to include a great number of episodes within the limitations of tape length, slide numbers, and film length, several episodes have been unclear and confusing. The charts at the end of Phase I would be much easier to use if all of the marks that had to be made for each episode were on one page instead of two, and if they ran in the same direction as the rest of the printed material instead of requiring the student to turn the manual sideways. A careful selection of problems could appreciably cut the number presented in the training portion of Phase II without any undue damage to this section.

The Orientation section is very brief and, even when shown two or three times, does not effectively do the job of placing the student in the classroom as the teacher. The materials in the Orientation handbook are incomplete and confusing, and seem to be of little help to the participants.

3. Additional comments.

I wonder whether or not the two classroom teachers do not play a larger part in the materials than is necessary. The participants seem to identify the class as belonging to the teachers instead of being their own. If the teachers were less intrusive, the simulation might be more complete. I am not sure just how this could be done in the present format, but it does seem worthwhile considering.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Glenn Stofka

Institution: State University College at Brockport

Professional Year Program in Cooperation with Rochester City Schools

Type of course term (check one): Quarter _____; Semester X;

Other _____
(Specify)

Date: February 14, 1969

* Attached sheet - description of schools involved in our program.

I. Personnel

1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.

Three clinical professors were observers. Our psychology instructor completed Phase II. Myself, also a clinical professor, served as operational director for Phase I.

2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.

Other clinical professors received pupil booklets, a verbal description, and viewed sample incidents prior to their students involvement. Approximate time - $1\frac{1}{2}$ hours.

Our psychology instructor received all the booklets relative to the program, viewed all of the Phase II film cartridges. Approximate time - 4 Hours.

3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?

The technical operation of the slide-type presentation of Phase I would appear to need thorough and complete familiarization in the part of the operator.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

Director of
Elementary Education

Observation only

Elementary Principal

No use to date

Helping Teachers
(Supervisors of Beginning Teachers)

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

The Teacher-aid who supervises classes thus providing teachers with a 15 minute "break" viewed Phase II films. She said she found it very helpful!

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

This director "had car" and did "travel" to the other three schools with all the cartons of carousel trays, booklets, and audio-visual equipment. The materials were left in each building until the students completed the two phases. Then "Pack up, load up, and move on to the next school."

7. List the number and type of courses in which the simulation materials were used.

Both of these courses included aspects of ^{this} simulation.
Education 302 Methods of Teaching Elementary School
Subjects II - Unit: Organizing and Managing the classroom.

Psychology 382 Educational Psychology - Unit: Classroom
Management

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

Genesee Valley ASCD members held an overnight workshop. "Simulations and Games". I summarized the Institute's (Summer) Program, displayed materials, and demonstrated segments of Phase I and II. The main activity was playing the game, "Napoli", starting late Friday evening and continuing Saturday morning till noon.

Dr. Clarence Williams, University of Rochester, was the coordinator.

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

The clinical professor is also the supervisor of the "practicum" aspect of the program. I have observed the various strategies presented in simulation in the actual classroom teaching of my students.

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

None

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

The assignment of students to the respective schools was

#1	10 students	5 hrs. (one full day A.M. P.M.)
#36	17 "	" "
#27	18 "	6 Hr. (Two consecutive days)
#30	14 "	6 Hr. (1 hr. per week)

3. Did you introduce any supplementary student activities in connection with Phase I training? Yes

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

Discussion relative to similar problems they had encountered while in the classroom, as **observer**, participant, or teacher.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase I training:

Mode A

Mode B

Mode C

N = _____

N = 56

N = _____

5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)

Although students were constantly encouraged, but never assigned to use the Technicolor projectors, they never once took advantage of the opportunity to work independently.

6. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)

The group sizes were 10, 17, 18, 14

7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

All the 36 episodes were projected for the students, which appeared to be too many from their comments.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

Discussion relative to similar incidents that had occurred in the building were shared and discussed. The more relevancy and reality of simulation and the "real world" occurred after students had more contact and exposure in the classroom.

Students uttered "role play" statements for many of the episodes in preference to writing them in the booklet

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.

Figure 1. Inset

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

LIGHT CONTROL for projection quality and yet a reasonable amount for students to be able to write in their booklets.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

Kodak Carousel Projector
Kodak Programmer
Wollensak stereo tape recorder
Technicolor 1000

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

Slides jammed consistently--corners had to be glued

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.

The use of the word "principle" and the statement (examples) of these principles bothered two of my colleagues. They could not accept this terminology.

It appeared that there was more material ("meat") in the program than was necessary to develop the respective areas. Students' remarks both verbal and on the forms indicated too much repetition.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

The film quality on the 8mm cartridges we knew would be poorly reproduced and it was.

The inability of the Technicolor 1000 to "reverse" to review a scene would prompt me not to recommend it for a tutorial use.

3. Additional comments.

I am interested in our students reactions in contrast to all others. They appeared to be rather negative to it at this time in their year-long experience. We believe it would be received better during pre-school Orientation or the very first week for the purpose of training. Too many students viewed it as "contrast" instead of training I believe.

PARTICIPATING SCHOOLS

A brief description of the schools participating in the program is as follows:

1. SUSAN B. ANTHONY SCHOOL NO. 27 - Susan B. Anthony School No. 27 is a 1,000 pupil elementary school serving children in Grades K through 7 in the inner city of Rochester. The racial makeup of the school is diverse in that 66 per cent of the children are Negro; 25 per cent of the children are Caucasian; and 9 per cent of the children are of Puerto Rican or other descent. The school includes 34 classroom teachers and a three member administrative and supervisory team. In addition, there are a number of special subject teachers as well as mental health personnel. The school is involved in several projects under Title I of the Elementary and Secondary Education Act as well as other special programs designed to improve the achievement level of educationally deprived children. It is presently non-graded in September. Experimental materials are being used in several subject areas including reading and science. Susan B. Anthony School No. 27 is housed in an older building (1900) which is scheduled for replacement in the near future.
2. GENERAL ELWELL S. OTIS SCHOOL NO. 30 - General Elwell S. Otis School No. 30 is a 700 pupil elementary school serving children in Grades K through 6. The population of the area consists mainly of semi-skilled and unskilled workers. The school is served by 24 classroom teachers and a full time building principal as well as special subject teachers and mental health personnel. The faculty of the school has been working during this school year to develop a completely non-graded program in which teams of teachers will work with clusters of students to provide more effective utilization of staff and greater individualization of instruction. School No. 30 is a receiving school in the open enrollment program of the City School District. At the present time, 92 inner city children are attending this school under the program, and the percentage of non-white children in the school is 15.3. School No. 30 is housed in a modern school plant completed in 1961.
3. MARTIN B. ANDERSON SCHOOL NO. 1 - Martin B. Anderson School No. 1 is a 400 pupil school serving children in Grades K through 7 in an area on the periphery of the city. Most residents of the area are engaged in managerial or professional positions. The school includes 16 classroom teachers on its staff and a full-time building principal as well as special subject teachers and mental health personnel. The faculty has been experimenting with and moving toward a non-graded program of instruction with an emphasis on team planning. Although the school is located on the periphery of the city, it enrolls a large number of children from the inner city since it receives 91 children on open enrollment. The percentage of non-white children in the school is 21.4. School No. 1 is housed in a school plant that was built in 1921.

Low-Cost Instructional Simulation
Materials for Teacher Education

Field-Trial Evaluation

IMPLEMENTATION ANALYSIS
(To be completed by Field-Trial Representative)

Teaching Research Division
Oregon State System of Higher Education
Monmouth, Oregon

System: Classroom Management / Discovery Teaching
(Underline the appropriate system. If you used both systems
please complete a separate copy for each.)

Evaluator: Geneva Winterrose

Institution: Brigham Young University

Type of course term (check one): Quarter _____; Semester X;

Other _____
(Specify)

Date: May 31, 1968

I. Personnel

- 1. List the total number of instructors who participated -- or whose students participated -- in the field-trial.**

1 instructor
24 students

- 2. Describe the manner in which the various members of the instructional staff were familiarized with the materials, and estimate the amount of time devoted to this activity.**

A small group of faculty from College of Education (Elementary) met two evenings and went over the material.

Estimated time = 7 hours

- 3. Does the program present any problems in selecting, training and assigning instructors? If yes, what is the nature of these problems?**

None at present.

4. We anticipate that in some of the trial centers the materials may be used by professional personnel other than those centrally involved in the actual field-trials (e.g., in graduate seminars; in-service training of teachers; field demonstrations; as a basis for or a part of a research project, and the like). For each individual who may have made such use of the materials in your center, mention briefly his area of professional interest and the kind of use he made of them.

Area of Profession
Interest

Use made of the materials

None at present.

5. We also anticipate that the professional personnel who were centrally involved in the field-trials may have found special uses for the materials, other than those to which they would normally be put. Describe briefly each such special use in your center.

Winterrose - Used introductory material on 3 roles of a teacher in Ed. class, "Basic Concepts of Teaching."

6. Describe the arrangement by which the materials were made accessible to the participating students, emphasizing the number of supporting personnel required for carrying out related activities, and the particular function performed by each (e.g., scheduling students, manning materials library, transporting equipment, etc.).

Used in a weekly two hour seminar with elementary student teachers while they were in the public schools in their second 6-week assignment. One teacher used materials in regular classroom.

7. List the number and type of courses in which the simulation materials were used.

1 course - Teacher Ed. 420 - "Basic Classroom Procedures" = a 4 unit course accompanying student teaching.

II. Products

1. List below by author, title, and other identifying information, any publications, papers, speeches, etc., that may have originated at your center in relation to the field-trial or the simulation materials. (If the document is in printed form, and copies are available, please enclose one copy.)

None

2. Mention any special variables that were investigated or measuring instruments that were developed in relation to the simulation materials. (Please furnish copies or related documents when available.)

None

3. Mention any evidence or plans for obtaining evidence which would indicate that the present materials will affect the teaching behavior of the participating students.

None

III. Student Participation

Phase I

1. List the number of students and appropriate year in school who completed individual training with the Phase I materials.

2. If the Phase I materials were presented to groups of students in your center, list the total number, the approximate group size, and the total amount of time required.

One group of 24 students - 10 hours

3. Did you introduce any supplementary student activities in connection with Phase I training?

If yes, mention the type of activity, its purpose, and the amount of time that was devoted to it.

The tape to be used with Review and Self-Evaluation was not available at our center. Therefore, a one hour group discussion and evaluation was carried out.

Phase II

4. List the total number of students in your center who completed the training associated with each of the following modes of Phase II training:

Mode A

Mode B

Mode C

N = _____

N = _____

N = 24

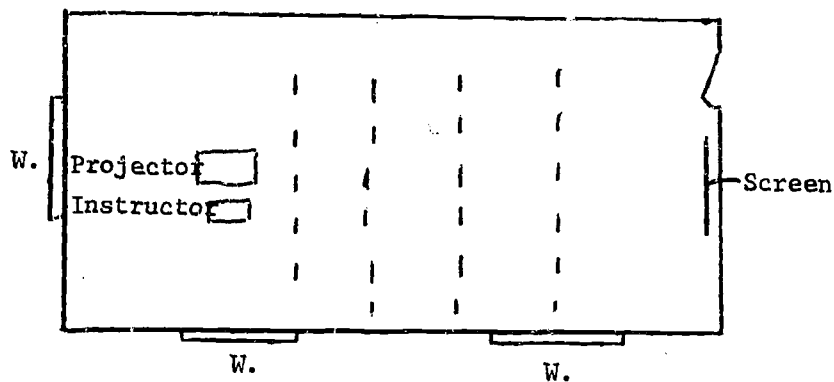
5. If you used Mode B, estimate the total amount of time required for each student. (Do not include time spent in supplementary activities.)
5. If you used Mode B, what various group sizes did you use? (In case a particular size was found to be particularly effective or particularly ineffective, please explain.)
7. If you used Mode B, list the number of episodes devoted to training and the number of episodes devoted to evaluation.

8. For each mode of Phase II training used in your center, mention any supplementary activities in which the students participated, including the type of activity, its purpose, and the amount of student time involved. (For instance, mention practice in classroom management or discovery teaching, classroom discussion, and similar activities not actually an integral part of the simulation materials.)

Classroom discussion = 1 hour.

IV. Physical Space

1. In this section, we would like a brief description -- or, preferably, a sketch -- of the general layout of physical space devoted to the use of the simulation materials. The purpose is to learn what arrangements may either tend to facilitate or impede their use. Accordingly, it will be very helpful if you will mention both the satisfactory and the improvable characteristics of your particular arrangement.



Ventilation was a problem as the dark blinds cut out air intake.

2. Mention any particularly satisfactory or improvable arrangements for the use of the materials within the various spaces mentioned above.

V. Equipment

1. List the number and type of machines used in presenting the simulation materials.

1 - tape recorder
1 - carousel slide projector
1 - Film projector
(all supplied by campus educational media center)

2. Did you encounter any special machine deficiencies, in terms of appropriateness to materials, appropriateness to physical spaces, appropriateness to group size, etc.? If so, what measures were taken or may be taken to effect improvements?

None

VI. General Reactions

- L. Mention any major conceptual flaws that you have observed in the simulation materials.

Groups of pages missing from several booklets.

Situation at the drinking fountain on Day 3 - Teacher's strategy starts back in middle of situation rather than where the situation ends.

2. Mention any needed improvements in the physical nature of the materials that you have not had the opportunity to mention elsewhere.

Students complain of the "shortness" of several of the situations. Some have difficulty feeling themselves into the situation before it ends.

3. Additional comments.

My observation was that the four students who rated the Student Attitude Questionnaire the lowest were my poorer student teachers in the actual classroom situation or are low academically.